

## **APPENDIX B**



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

June 10, 2019

Marian Rambelle  
CDW Consultants, Inc.  
6 Huron Drive  
Natick, MA 01760

Project Location: Beaver St., Waltham, MA  
Client Job Number:  
Project Number: [none]  
Laboratory Work Order Number: 19E1819

Enclosed are results of analyses for samples received by the laboratory on May 31, 2019. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Michelle Koch'. The signature is written in a cursive, flowing style.

Michelle M. Koch  
Project Manager

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CDW Consultants, Inc.  
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ATTN: Marian Rambelle

REPORT DATE: 6/10/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

## ANALYTICAL SUMMARY

WORK ORDER NUMBER: 19E1819

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Beaver St., Waltham, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GP1-1 (11-13)	19E1819-01	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-2 (11-13)	19E1819-02	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-3 (11-13)	19E1819-03	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-4 (11-13)	19E1819-04	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-5 (11-13)	19E1819-05	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-6 (11-13)	19E1819-06	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	

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REPORT DATE: 6/10/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

## ANALYTICAL SUMMARY

WORK ORDER NUMBER: 19E1819

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Beaver St., Walham, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GP1-7 (10-12)	19E1819-07	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-8 (10-12)	19E1819-08	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP1-9 (11-13)	19E1819-09	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP2-1 (6-8)	19E1819-10	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP2-2 (7-9)	19E1819-11	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	
GP2-3 (7-9)	19E1819-12	Soil		MADEP-EPH-04-1.1 MADEP-VPH-Feb 2018 Rev 2.1 SM 2540G SW-846 6010D SW-846 7471B SW-846 8260C	



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REPORT DATE: 6/10/2019

PURCHASE ORDER NUMBER:

PROJECT NUMBER: [none]

## ANALYTICAL SUMMARY

WORK ORDER NUMBER: 19E1819

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Beaver St., Waltham, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GP1-2 (0-2)	19E1819-13	Soil		SM 2540G	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8151A	
GP1-6 (3-5)	19E1819-14	Soil		SM 2540G	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8151A	
GP1-7 (3-5)	19E1819-15	Soil		SM 2540G	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8151A	



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#### CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 8151 samples were derivatized on 06/06/19.

For method 8151 sample analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.



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MADEP-EPH-04-1.1

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**Qualifications:****L-07**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

**Analyte & Samples(s) Qualified:****n-Nonane****B232351-BSD1, B232351-MS1**

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**RL-08**

Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.

**Analyte & Samples(s) Qualified:****2-Methylnaphthalene****19E1819-08[GP1-8 (10-12)]****Acenaphthene****19E1819-08[GP1-8 (10-12)]****Acenaphthylene****19E1819-08[GP1-8 (10-12)]****Anthracene****19E1819-08[GP1-8 (10-12)]****Benzo(a)anthracene****19E1819-08[GP1-8 (10-12)]****Benzo(a)pyrene****19E1819-08[GP1-8 (10-12)]****Benzo(b)fluoranthene****19E1819-08[GP1-8 (10-12)]****Benzo(g,h,i)perylene****19E1819-08[GP1-8 (10-12)]****Benzo(k)fluoranthene****19E1819-08[GP1-8 (10-12)]****C9-C18 Aliphatics****19E1819-08[GP1-8 (10-12)]****Chrysene****19E1819-08[GP1-8 (10-12)]****Dibenz(a,h)anthracene****19E1819-08[GP1-8 (10-12)]****Fluoranthene****19E1819-08[GP1-8 (10-12)]****Fluorene****19E1819-08[GP1-8 (10-12)]****Indeno(1,2,3-cd)pyrene****19E1819-08[GP1-8 (10-12)]****Naphthalene****19E1819-08[GP1-8 (10-12)]****Phenanthrene****19E1819-08[GP1-8 (10-12)]****Pyrene****19E1819-08[GP1-8 (10-12)]**

MADEP-VPH-Feb 2018 Rev 2.1

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**Qualifications:****O-01**

Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.

**Analyte & Samples(s) Qualified:**

19E1819-01[GP1-1 (11-13)], 19E1819-02[GP1-2 (11-13)], 19E1819-03[GP1-3 (11-13)], 19E1819-04[GP1-4 (11-13)], 19E1819-05[GP1-5 (11-13)], 19E1819-06[GP1-6 (11-13)], 19E1819-09[GP1-9 (11-13)], 19E1819-10[GP2-1 (6-8)], 19E1819-12[GP2-3 (7-9)]

SW-846 6010D

**Qualifications:**



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**MS-07**

Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.

**Analyte & Samples(s) Qualified:****Antimony**19E1819-02[GP1-2 (11-13)], B232592-MS1

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**R-04**

Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).

**Analyte & Samples(s) Qualified:****Arsenic**

19E1819-02[GP1-2 (11-13)], B232592-DUP1

**Cadmium**

19E1819-02[GP1-2 (11-13)], B232592-DUP1

SW-846 8081B

**Qualifications:**

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**DL-03**

Elevated reporting limit due to matrix interference.

**Analyte & Samples(s) Qualified:**19E1819-13[GP1-2 (0-2)]

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**P-02**

Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

**Analyte & Samples(s) Qualified:****Endrin Ketone**

19E1819-15[GP1-7 (3-5)]

**Heptachlor Epoxide [2C]**

19E1819-15[GP1-7 (3-5)]

SW-846 8082A

**Qualifications:**

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**O-32**

A dilution was performed as part of the standard analytical procedure.

**Analyte & Samples(s) Qualified:**

19E1819-13[GP1-2 (0-2)], 19E1819-14[GP1-6 (3-5)], 19E1819-15[GP1-7 (3-5)]

SW-846 8151A

**Qualifications:**

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**DL-03**

Elevated reporting limit due to matrix interference.

**Analyte & Samples(s) Qualified:**

19E1819-15[GP1-7 (3-5)]  
2,4,5-T  
19E1819-13[GP1-2 (0-2)]  
2,4,5-T [2C]  
19E1819-13[GP1-2 (0-2)]  
2,4,5-TP (Silvex)  
19E1819-13[GP1-2 (0-2)]  
2,4,5-TP (Silvex) [2C]  
19E1819-13[GP1-2 (0-2)]  
2,4-D  
19E1819-13[GP1-2 (0-2)]  
2,4-D [2C]  
19E1819-13[GP1-2 (0-2)]  
2,4-DB  
19E1819-13[GP1-2 (0-2)]  
2,4-DB [2C]  
19E1819-13[GP1-2 (0-2)]  
2,4-Dichlorophenylacetic acid  
19E1819-13[GP1-2 (0-2)]  
2,4-Dichlorophenylacetic acid [2C]  
19E1819-13[GP1-2 (0-2)]  
Dalapon  
19E1819-13[GP1-2 (0-2)]  
Dalapon [2C]  
19E1819-13[GP1-2 (0-2)]  
Dicamba  
19E1819-13[GP1-2 (0-2)]  
Dicamba [2C]  
19E1819-13[GP1-2 (0-2)]  
Dichloroprop  
19E1819-13[GP1-2 (0-2)]  
Dichloroprop [2C]  
19E1819-13[GP1-2 (0-2)]  
Dinoseb  
19E1819-13[GP1-2 (0-2)]  
Dinoseb [2C]  
19E1819-13[GP1-2 (0-2)]  
MCPA  
19E1819-13[GP1-2 (0-2)]  
MCPA [2C]  
19E1819-13[GP1-2 (0-2)]  
MCPP  
19E1819-13[GP1-2 (0-2)]  
MCPP [2C]  
19E1819-13[GP1-2 (0-2)]

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**L-11**

Laboratory fortified blank/laboratory control sample was outside of control limits on the confirmation column, but within control limits on the primary column. All sample results are reported from the column within control criteria.

**Analyte & Samples(s) Qualified:**

2,4,5-T [2C]  
B232364-BS1, B232364-BSD1

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**MS-12**

Matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

**Analyte & Samples(s) Qualified:**

2,4,5-T [2C]  
B232364-MS1, B232364-MSD1

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SW-846 8260C

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**Qualifications:****L-02**

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

**Analyte & Samples(s) Qualified:****Carbon Disulfide**

B232391-BS1, B232391-BSD1

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**L-07**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

**Analyte & Samples(s) Qualified:****Chlorodibromomethane**

B232391-BS1

**Methyl tert-Butyl Ether (MTBE)**

B232391-BSD1

**Trichlorofluoromethane (Freon 11)**

B232391-BSD1

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**L-07A**

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

**Analyte & Samples(s) Qualified:****Acetone**

B232391-BS1

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**R-05**

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

**Analyte & Samples(s) Qualified:****butanone (MEK)**

19E1819-05[GP1-5 (11-13)], 19E1819-06[GP1-6 (11-13)], 19E1819-07[GP1-7 (10-12)], 19E1819-08[GP1-8 (10-12)], 19E1819-09[GP1-9 (11-13)], 19E1819-10[GP2-1 (6-8)], 19E1819-11[GP2-2 (7-9)], 19E1819-12[GP2-3 (7-9)], B232391-BLK1, B232391-BS1, B232391-BSD1

**Acetone**

19E1819-05[GP1-5 (11-13)], 19E1819-06[GP1-6 (11-13)], 19E1819-07[GP1-7 (10-12)], 19E1819-08[GP1-8 (10-12)], 19E1819-09[GP1-9 (11-13)], 19E1819-10[GP2-1 (6-8)], 19E1819-11[GP2-2 (7-9)], 19E1819-12[GP2-3 (7-9)], B232391-BLK1, B232391-BS1, B232391-BSD1

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**V-05**

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

**Analyte & Samples(s) Qualified:****1,2,4-Trichlorobenzene**

19E1819-01[GP1-1 (11-13)], 19E1819-02[GP1-2 (11-13)], 19E1819-03[GP1-3 (11-13)], 19E1819-04[GP1-4 (11-13)], B232325-BLK1, B232325-BS1, B232325-BSD1, S036631-CCV1

**Naphthalene**

19E1819-01[GP1-1 (11-13)], 19E1819-02[GP1-2 (11-13)], 19E1819-03[GP1-3 (11-13)], 19E1819-04[GP1-4 (11-13)], 19E1819-05[GP1-5 (11-13)], 19E1819-06[GP1-6 (11-13)], 19E1819-07[GP1-7 (10-12)], 19E1819-08[GP1-8 (10-12)], 19E1819-09[GP1-9 (11-13)], 19E1819-10[GP2-1 (6-8)], 19E1819-11[GP2-2 (7-9)], 19E1819-12[GP2-3 (7-9)], B232325-BLK1, B232325-BS1, B232325-BSD1, B232391-BLK1, B232391-BS1, B232391-BSD1, S036631-CCV1, S036687-CCV1

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**V-16**

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

**Analyte & Samples(s) Qualified:****1,4-Dioxane**

19E1819-01[GP1-1 (11-13)], 19E1819-02[GP1-2 (11-13)], 19E1819-03[GP1-3 (11-13)], 19E1819-04[GP1-4 (11-13)], 19E1819-05[GP1-5 (11-13)], 19E1819-06[GP1-6 (11-13)], 19E1819-07[GP1-7 (10-12)], 19E1819-08[GP1-8 (10-12)], 19E1819-09[GP1-9 (11-13)], 19E1819-10[GP2-1 (6-8)], 19E1819-11[GP2-2 (7-9)], 19E1819-12[GP2-3 (7-9)], B232325-BLK1, B232325-BS1, B232325-BSD1, B232391-BLK1, B232391-BS1, B232391-BSD1

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V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

**Analyte & Sample(s) Qualified:****1,1,1-Trichloroethane**

B232325-BS1, B232325-BSD1, B232391-BS1, B232391-BSD1, S036631-CCV1, S036687-CCV1

**1,1-Dichloroethylene**

B232391-BS1, B232391-BSD1, S036687-CCV1

**1,2-Dichloroethane**

B232391-BS1, B232391-BSD1, S036687-CCV1

**Carbon Disulfide**

B232391-BS1, B232391-BSD1, S036687-CCV1

**Carbon Tetrachloride**

B232325-BS1, B232325-BSD1, B232391-BS1, B232391-BSD1, S036631-CCV1, S036687-CCV1

**Trichlorofluoromethane (Freon 11)**

B232325-BS1, B232325-BSD1, B232391-BS1, B232391-BSD1, S036631-CCV1, S036687-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

**Analyte & Sample(s) Qualified:****Bromomethane**

19E1819-01[GP1-1 (11-13)], 19E1819-02[GP1-2 (11-13)], 19E1819-03[GP1-3 (11-13)], 19E1819-04[GP1-4 (11-13)], 19E1819-05[GP1-5 (11-13)], 19E1819-06[GP1-6 (11-13)], 19E1819-07[GP1-7 (10-12)], 19E1819-08[GP1-8 (10-12)], 19E1819-09[GP1-9 (11-13)], 19E1819-10[GP2-1 (6-8)], 19E1819-11[GP2-2 (7-9)], 19E1819-12[GP2-3 (7-9)], B232325-BLK1, B232325-BS1, B232325-BSD1, B232391-BLK1, B232391-BS1, B232391-BSD1, S036631-CCV1, S036687-CCV1

**MADEP-EPH-04-1.1**

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic fraction in all samples in the batch. No significant modifications were made to the method.

**MADEP-VPH-Feb 2018 Rev 2.1**

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.


Analytical column used for VPH analysis is Restek, Rtx-502.2, 105meter, 0.53mmID, 3um df. Trap used for VPH analysis is CarboPack B/CarboSieveS-III.

**SW-846 8260C**

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Lisa A. Worthington  
Technical Representative

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-1 (11-13)

Sampled: 5/28/2019 09:00

Sample ID: 19E1819-01

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Bromomethane	ND	0.0077	mg/Kg dry	1	V-34	SW-846 8260C	6/3/19	6/3/19 15:30	MFF
2-Butanone (MEK)	ND	0.031	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Carbon Disulfide	ND	0.0046	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Chlorodibromomethane	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Chloroethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Chloroform	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Chloromethane	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2-Dibromoethane (EDB)	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1-Dichloroethylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,3-Dichloropropane	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
cis-1,3-Dichloropropene	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
trans-1,3-Dichloropropene	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Diethyl Ether	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Diisopropyl Ether (DIPE)	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,4-Dioxane	ND	0.077	mg/Kg dry	1	V-16	SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-1 (11-13)

Sampled: 5/28/2019 09:00

Sample ID: 19E1819-01

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Methylene Chloride	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Naphthalene	ND	0.0031	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 15:30	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1,2,2-Tetrachloroethane	ND	0.00077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Tetrahydrofuran	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Vinyl Chloride	ND	0.0077	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
m+p Xylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:30	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	114	70-130						6/3/19 15:30	
Toluene-d8	95.8	70-130						6/3/19 15:30	
4-Bromofluorobenzene	102	70-130						6/3/19 15:30	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-1 (11-13)

Sampled: 5/28/2019 09:00

Sample ID: 19E1819-01

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
2-Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 18:29	RMW
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	73.7	40-140							
o-Terphenyl (OTP)	79.8	40-140							
2-Bromonaphthalene	96.4	40-140							
2-Fluorobiphenyl	104	40-140							



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-1 (11-13)

Sampled: 5/28/2019 09:00

Sample ID: 19E1819-01

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.39

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	7.8	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
C5-C8 Aliphatics	ND	7.8	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Unadjusted C9-C12 Aliphatics	ND	7.8	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
C9-C12 Aliphatics	ND	7.8	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
C9-C10 Aromatics	ND	7.8	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Benzene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Ethylbenzene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Naphthalene	ND	0.20	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Toluene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
m+p Xylene	ND	0.078	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
o-Xylene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:22	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,5-Dibromotoluene (FID)	99.5	70-130						6/4/19 1:22	
2,5-Dibromotoluene (PID)	97.4	70-130						6/4/19 1:22	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-1 (11-13)

Sampled: 5/28/2019 09:00

Sample ID: 19E1819-01

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Barium	43	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Beryllium	0.26	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Chromium	9.0	0.35	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Lead	5.0	0.52	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:34	AJL
Nickel	8.0	0.35	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Selenium	ND	3.5	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Silver	ND	0.35	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Vanadium	28	0.70	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB
Zinc	41	0.70	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:16	EJB

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-1 (11-13)

Sampled: 5/28/2019 09:00

Sample ID: 19E1819-01

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.4		% Wt	1		SM 2540G	6/5/19	6/5/19 15:52	JDN

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (11-13)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-02

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Bromomethane	ND	0.0081	mg/Kg dry	1	V-34	SW-846 8260C	6/3/19	6/3/19 15:55	MFF
2-Butanone (MEK)	ND	0.032	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Carbon Disulfide	ND	0.0049	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Chlorodibromomethane	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Chloroethane	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Chloroform	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Chloromethane	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2-Dibromoethane (EDB)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1-Dichloroethylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,3-Dichloropropane	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
cis-1,3-Dichloropropene	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
trans-1,3-Dichloropropene	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Diethyl Ether	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Diisopropyl Ether (DIPE)	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,4-Dioxane	ND	0.081	mg/Kg dry	1	V-16	SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (11-13)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-02

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Methylene Chloride	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Naphthalene	ND	0.0032	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 15:55	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1,2,2-Tetrachloroethane	ND	0.00081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Tetrahydrofuran	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
2,4-Trichlorobenzene	ND	0.0016	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
Vinyl Chloride	ND	0.0081	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
m+p Xylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 15:55	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	108	70-130	6/3/19 15:55
Toluene-d8	99.8	70-130	6/3/19 15:55
4-Bromofluorobenzene	110	70-130	6/3/19 15:55

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (11-13)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-02

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:26	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual
Chlorooctadecane (COD)	73.2	40-140	6/5/19 19:26
o-Terphenyl (OTP)	87.1	40-140	6/5/19 19:26
2-Bromonaphthalene	107	40-140	6/5/19 19:26
2-Fluorobiphenyl	113	40-140	6/5/19 19:26

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (11-13)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-02

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.30

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.2	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
C5-C8 Aliphatics	ND	9.2	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Unadjusted C9-C12 Aliphatics	ND	9.2	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
C9-C12 Aliphatics	ND	9.2	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
C9-C10 Aromatics	ND	9.2	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Benzene	ND	0.046	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Ethylbenzene	ND	0.046	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.046	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Naphthalene	ND	0.23	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Toluene	ND	0.046	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
m+p Xylene	ND	0.092	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
o-Xylene	ND	0.046	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 1:51	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	97.3	70-130							
2,5-Dibromotoluene (PID)	94.4	70-130							

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (11-13)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-02

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1	MS-07	SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Arsenic	4.2	1.8	mg/Kg dry	1	R-04	SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Barium	18	1.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Beryllium	0.19	0.18	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Cadmium	0.27	0.18	mg/Kg dry	1	R-04	SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Chromium	6.6	0.36	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Lead	9.2	0.54	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:29	AJL
Nickel	5.6	0.36	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Thallium	ND	1.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Vanadium	14	0.72	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB
Zinc	21	0.72	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:12	EJB





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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (11-13)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-02

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.2		% Wt	1		SM 2540G	6/5/19	6/5/19 15:46	JDN

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-3 (11-13)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-03

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Benzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Bromobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Bromochloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Bromodichloromethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Bromoform	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Bromomethane	ND	0.0064	mg/Kg dry	1	V-34	SW-846 8260C	6/3/19	6/3/19 16:19	MFF
2-Butanone (MEK)	ND	0.026	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
n-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
sec-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
tert-Butylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Carbon Disulfide	ND	0.0038	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Carbon Tetrachloride	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Chlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Chlorodibromomethane	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Chloroethane	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Chloroform	ND	0.0026	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Chloromethane	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
2-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
4-Chlorotoluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2-Dibromoethane (EDB)	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Dibromomethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,3-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,4-Dichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2-Dichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1-Dichloroethylene	ND	0.0026	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
cis-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
trans-1,2-Dichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,3-Dichloropropane	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
2,2-Dichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1-Dichloropropene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
cis-1,3-Dichloropropene	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
trans-1,3-Dichloropropene	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Diethyl Ether	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Diisopropyl Ether (DIPE)	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,4-Dioxane	ND	0.064	mg/Kg dry	1	V-16	SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Ethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-3 (11-13)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-03

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
2-Hexanone (MBK)	ND	0.013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Isopropylbenzene (Cumene)	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0026	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Methylene Chloride	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Naphthalene	ND	0.0026	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 16:19	MFF
n-Propylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Styrene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1,1,2-Tetrachloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1,2,2-Tetrachloroethane	ND	0.00064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Tetrachloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Tetrahydrofuran	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Toluene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2,3-Trichlorobenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
2,4-Trichlorobenzene	ND	0.0013	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1,1-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,1,2-Trichloroethane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Trichloroethylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2,3-Trichloropropane	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,2,4-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
1,3,5-Trimethylbenzene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Vinyl Chloride	ND	0.0064	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
m+p Xylene	ND	0.0026	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
o-Xylene	ND	0.0013	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:19	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	107	70-130							
Toluene-d8	97.8	70-130							
4-Bromofluorobenzene	111	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-3 (11-13)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-03

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
2-Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/5/19 19:45	RMW

Surrogates	% Recovery	Recovery Limits	Flag/Qual
Chlorooctadecane (COD)	73.1	40-140	6/5/19 19:45
o-Terphenyl (OTP)	79.7	40-140	6/5/19 19:45
2-Bromonaphthalene	101	40-140	6/5/19 19:45
2-Fluorobiphenyl	109	40-140	6/5/19 19:45

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-3 (11-13)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-03

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.48

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	7.5	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
C5-C8 Aliphatics	ND	7.5	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Unadjusted C9-C12 Aliphatics	ND	7.5	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
C9-C12 Aliphatics	ND	7.5	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
C9-C10 Aromatics	ND	7.5	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Benzene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Ethylbenzene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Naphthalene	ND	0.19	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Toluene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
m+p Xylene	ND	0.075	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
o-Xylene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:21	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
3-Dibromotoluene (FID)	103	70-130						6/4/19 2:21	
2,5-Dibromotoluene (PID)	98.6	70-130						6/4/19 2:21	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-3 (11-13)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-03

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Barium	19	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Beryllium	0.18	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Chromium	5.2	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Lead	2.5	0.51	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Mercury	ND	0.025	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:35	AJL
Nickel	4.5	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Vanadium	14	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB
Zinc	21	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:23	EJB



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-3 (11-13)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-03

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.4		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-4 (11-13)

Sampled: 5/28/2019 11:40

Sample ID: 19E1819-04

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Benzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Bromobenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Bromochloromethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Bromodichloromethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Bromoform	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Bromomethane	ND	0.0062	mg/Kg dry	1	V-34	SW-846 8260C	6/3/19	6/3/19 16:44	MFF
2-Butanone (MEK)	ND	0.025	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
n-Butylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
sec-Butylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
tert-Butylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Carbon Disulfide	ND	0.0037	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Carbon Tetrachloride	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Chlorobenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Chlorodibromomethane	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Chloroethane	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Chloroform	ND	0.0025	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Chloromethane	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
2-Chlorotoluene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
4-Chlorotoluene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2-Dibromoethane (EDB)	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Dibromomethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2-Dichlorobenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,3-Dichlorobenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,4-Dichlorobenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1-Dichloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2-Dichloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1-Dichloroethylene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
cis-1,2-Dichloroethylene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
trans-1,2-Dichloroethylene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2-Dichloropropane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,3-Dichloropropane	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
2,2-Dichloropropane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1-Dichloropropene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
cis-1,3-Dichloropropene	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
trans-1,3-Dichloropropene	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Diethyl Ether	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Diisopropyl Ether (DIPE)	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,4-Dioxane	ND	0.062	mg/Kg dry	1	V-16	SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Ethylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-4 (11-13)

Sampled: 5/28/2019 11:40

Sample ID: 19E1819-04

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
2-Hexanone (MBK)	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Isopropylbenzene (Cumene)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0025	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Methylene Chloride	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Naphthalene	ND	0.0025	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 16:44	MFF
n-Propylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Styrene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1,1,2-Tetrachloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1,2,2-Tetrachloroethane	ND	0.00062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Tetrachloroethylene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Tetrahydrofuran	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Toluene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2,3-Trichlorobenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
2,4-Trichlorobenzene	ND	0.0012	mg/Kg dry	1	V-05	SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1,1-Trichloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,1,2-Trichloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Trichloroethylene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2,3-Trichloropropane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,2,4-Trimethylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
1,3,5-Trimethylbenzene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
Vinyl Chloride	ND	0.0062	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
m+p Xylene	ND	0.0025	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF
o-Xylene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/3/19	6/3/19 16:44	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	109	70-130	6/3/19 16:44
Toluene-d8	99.0	70-130	6/3/19 16:44
4-Bromofluorobenzene	113	70-130	6/3/19 16:44

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-4 (11-13)

Sampled: 5/28/2019 11:40

Sample ID: 19E1819-04

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
benzo(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
2-Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:36	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual
Chlorooctadecane (COD)	69.5	40-140	6/7/19 0:36
o-Terphenyl (OTP)	78.6	40-140	6/7/19 0:36
2-Bromonaphthalene	103	40-140	6/7/19 0:36
2-Fluorobiphenyl	116	40-140	6/7/19 0:36

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Subject Location: Beaver St., Walham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-4 (11-13)

Sampled: 5/28/2019 11:40

Sample ID: 19E1819-04

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.40

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	7.7	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
C5-C8 Aliphatics	ND	7.7	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Unadjusted C9-C12 Aliphatics	ND	7.7	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
C9-C12 Aliphatics	ND	7.7	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
C9-C10 Aromatics	ND	7.7	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Benzene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Ethylbenzene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Naphthalene	ND	0.19	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Toluene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
m+p Xylene	ND	0.077	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
o-Xylene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 2:50	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
4,5-Dibromotoluene (FID)	104	70-130							
2,5-Dibromotoluene (PID)	93.6	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-4 (11-13)

Sampled: 5/28/2019 11:40

Sample ID: 19E1819-04

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Barium	39	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Beryllium	0.24	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Chromium	7.2	0.35	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Lead	5.8	0.52	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Mercury	ND	0.024	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:37	AJL
Nickel	8.5	0.35	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Selenium	ND	3.5	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Silver	ND	0.35	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Vanadium	25	0.69	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB
Zinc	38	0.69	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:28	EJB



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Subject Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-4 (11-13)

Sampled: 5/28/2019 11:40

Sample ID: 19E1819-04

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	97.1		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-5 (11-13)

Sampled: 5/28/2019 13:00

Sample ID: 19E1819-05

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.069	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 7:23	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Bromomethane	ND	0.0069	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 7:23	MFF
2-Butanone (MEK)	ND	0.028	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 7:23	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Carbon Disulfide	ND	0.0042	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Chlorodibromomethane	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Chloroethane	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Chloroform	ND	0.0028	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Chloromethane	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2-Dibromoethane (EDB)	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1-Dichloroethylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,3-Dichloropropane	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
cis-1,3-Dichloropropene	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
trans-1,3-Dichloropropene	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Diethyl Ether	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Diisopropyl Ether (DIPE)	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,4-Dioxane	ND	0.069	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-5 (11-13)

Sampled: 5/28/2019 13:00

Sample ID: 19E1819-05

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0028	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Methylene Chloride	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Naphthalene	ND	0.0028	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 7:23	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1,2,2-Tetrachloroethane	ND	0.00069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Tetrahydrofuran	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
Vinyl Chloride	ND	0.0069	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
m+p Xylene	ND	0.0028	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:23	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	103	70-130	6/4/19 7:23
Toluene-d8	98.9	70-130	6/4/19 7:23
4-Bromofluorobenzene	104	70-130	6/4/19 7:23

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-5 (11-13)

Sampled: 5/28/2019 13:00

Sample ID: 19E1819-05

Sample Matrix: Soil

## Petroroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 0:55	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	81.3	40-140							
o-Terphenyl (OTP)	91.5	40-140							
2-Bromonaphthalene	118	40-140							
2-Fluorobiphenyl	128	40-140							



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-5 (11-13)

Sampled: 5/28/2019 13:00

Sample ID: 19E1819-05

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.41

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.0	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
C5-C8 Aliphatics	ND	8.0	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Unadjusted C9-C12 Aliphatics	ND	8.0	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
C9-C12 Aliphatics	ND	8.0	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
C9-C10 Aromatics	ND	8.0	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Benzene	ND	0.040	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Ethylbenzene	ND	0.040	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.040	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Naphthalene	ND	0.20	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Toluene	ND	0.040	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
m+p Xylene	ND	0.080	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
o-Xylene	ND	0.040	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:20	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	103	70-130							
2,5-Dibromotoluene (PID)	98.5	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-5 (11-13)

Sampled: 5/28/2019 13:00

Sample ID: 19E1819-05

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Barium	29	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Beryllium	0.19	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Chromium	7.3	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Lead	3.9	0.51	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:39	AJL
Nickel	6.6	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Vanadium	19	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB
Zinc	27	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:45	EJB

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-5 (11-13)

Sampled: 5/28/2019 13:00

Sample ID: 19E1819-05

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.8		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Subject Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (11-13)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-06

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.078	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 7:48	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Bromomethane	ND	0.0078	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 7:48	MFF
2-Butanone (MEK)	ND	0.031	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 7:48	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Carbon Disulfide	ND	0.0047	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Chlorodibromomethane	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Chloroethane	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Chloroform	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Chloromethane	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2-Dibromoethane (EDB)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1-Dichloroethylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,3-Dichloropropane	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
cis-1,3-Dichloropropene	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
trans-1,3-Dichloropropene	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Diethyl Ether	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Diisopropyl Ether (DIPE)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,4-Dioxane	ND	0.078	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (11-13)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-06

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Methylene Chloride	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Naphthalene	ND	0.0031	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 7:48	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1,2,2-Tetrachloroethane	ND	0.00078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Tetrahydrofuran	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2,4-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
Vinyl Chloride	ND	0.0078	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
m+p Xylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 7:48	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	106	70-130	6/4/19 7:48
Toluene-d8	101	70-130	6/4/19 7:48
4-Bromofluorobenzene	105	70-130	6/4/19 7:48

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (11-13)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-06

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
2-Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:14	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	71.1	40-140						6/7/19 1:14	
o-Terphenyl (OTP)	78.4	40-140						6/7/19 1:14	
2-Bromonaphthalene	117	40-140						6/7/19 1:14	
2-Fluorobiphenyl	125	40-140						6/7/19 1:14	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (11-13)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-06

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - VPH

Sample Flags: O-01

Soil/Methanol Preservation Ratio: 1.51

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	7.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
C5-C8 Aliphatics	ND	7.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Unadjusted C9-C12 Aliphatics	ND	7.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
C9-C12 Aliphatics	ND	7.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
C9-C10 Aromatics	ND	7.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Benzene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Ethylbenzene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Naphthalene	ND	0.19	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Toluene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
m+p Xylene	ND	0.076	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
o-Xylene	ND	0.038	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 3:49	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	97.6	70-130						6/4/19 3:49	
2,5-Dibromotoluene (PID)	96.7	70-130						6/4/19 3:49	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (11-13)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-06

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Barium	24	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Beryllium	0.20	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Chromium	6.7	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Lead	3.7	0.51	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Mercury	ND	0.025	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:40	AJL
Nickel	6.7	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Vanadium	21	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB
Zinc	28	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:50	EJB



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (11-13)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-06

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.0		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (10-12)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-07

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.12	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 8:12	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Benzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Bromobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Bromochloromethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Bromodichloromethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Bromoform	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Bromomethane	ND	0.012	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 8:12	MFF
2-Butanone (MEK)	ND	0.049	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 8:12	MFF
n-Butylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
sec-Butylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
tert-Butylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Carbon Disulfide	ND	0.0073	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Carbon Tetrachloride	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Chlorobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Chlorodibromomethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Chloroethane	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Chloroform	ND	0.0049	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Chloromethane	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
2-Chlorotoluene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
4-Chlorotoluene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2-Dibromoethane (EDB)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Dibromomethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2-Dichlorobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,3-Dichlorobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,4-Dichlorobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1-Dichloroethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2-Dichloroethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1-Dichloroethylene	ND	0.0049	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
cis-1,2-Dichloroethylene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
trans-1,2-Dichloroethylene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2-Dichloropropane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,3-Dichloropropane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
2,2-Dichloropropane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1-Dichloropropene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
cis-1,3-Dichloropropene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
trans-1,3-Dichloropropene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Diethyl Ether	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Diisopropyl Ether (DIPE)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,4-Dioxane	ND	0.12	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Ethylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (10-12)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-07

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
2-Hexanone (MBK)	ND	0.024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Isopropylbenzene (Cumene)	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0049	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Methylene Chloride	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Naphthalene	ND	0.0049	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 8:12	MFF
n-Propylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Styrene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1,1,2-Tetrachloroethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1,2,2-Tetrachloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Tetrachloroethylene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Tetrahydrofuran	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Toluene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2,3-Trichlorobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2,4-Trichlorobenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1,1-Trichloroethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,1,2-Trichloroethane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Trichloroethylene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Trichlorofluoromethane (Freon 11)	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2,3-Trichloropropane	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,2,4-Trimethylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
1,3,5-Trimethylbenzene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
Vinyl Chloride	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
m+p Xylene	ND	0.0049	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF
o-Xylene	ND	0.0024	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:12	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	108	70-130	6/4/19 8:12
Toluene-d8	99.3	70-130	6/4/19 8:12
4-Bromofluorobenzene	105	70-130	6/4/19 8:12

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (10-12)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-07

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	31	23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
C19-C36 Aliphatics	250	23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Unadjusted C11-C22 Aromatics	190	23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
C11-C22 Aromatics	190	23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Acenaphthene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Acenaphthylene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Anthracene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Benzo(a)anthracene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Benzo(a)pyrene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Benzo(b)fluoranthene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Benzo(g,h,i)perylene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Benzo(k)fluoranthene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Chrysene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Dibenz(a,h)anthracene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Fluoranthene	2.9	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Fluorene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Indeno(1,2,3-cd)pyrene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
2-Methylnaphthalene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Naphthalene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Phenanthrene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB
Pyrene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:48	KLB

Surrogates	% Recovery	Recovery Limits	Flag/Qual
Chlorooctadecane (COD)	63.8	40-140	6/7/19 2:48
o-Terphenyl (OTP)	71.7	40-140	6/7/19 2:48
2-Bromonaphthalene	120	40-140	6/7/19 2:48
2-Fluorobiphenyl	132	40-140	6/7/19 2:48

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (10-12)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-07

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.24

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	32	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
C5-C8 Aliphatics	ND	32	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Unadjusted C9-C12 Aliphatics	ND	32	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
C9-C12 Aliphatics	ND	32	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
C9-C10 Aromatics	ND	32	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Benzene	ND	0.16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Ethylbenzene	ND	0.16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Naphthalene	ND	0.80	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Toluene	ND	0.16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
m+p Xylene	ND	0.32	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
o-Xylene	ND	0.16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/4/19 4:18	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
5-Dibromotoluene (FID)	107	70-130						6/4/19 4:18	
2,5-Dibromotoluene (PID)	101	70-130						6/4/19 4:18	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

ite Received: 5/31/2019

Field Sample #: GP1-7 (10-12)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-07

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Arsenic	6.9	3.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Barium	480	3.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Beryllium	0.90	0.38	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Cadmium	1.9	0.38	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Chromium	730	0.75	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Lead	220	1.1	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Mercury	0.60	0.057	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:42	AJL
Nickel	60	0.75	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Selenium	ND	7.5	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Silver	0.90	0.75	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Thallium	ND	3.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Vanadium	56	1.5	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 23:12	EJB
Zinc	840	3.0	mg/Kg dry	2		SW-846 6010D	6/5/19	6/7/19 14:28	EJB



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (10-12)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-07

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	43.0		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-8 (10-12)

Sampled: 5/28/2019 15:45

Sample ID: 19E1819-08

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.12	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 8:37	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Benzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Bromobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Bromochloromethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Bromodichloromethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Bromoform	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Bromomethane	ND	0.012	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 8:37	MFF
2-Butanone (MEK)	ND	0.046	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 8:37	MFF
n-Butylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
sec-Butylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
tert-Butylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Carbon Disulfide	ND	0.0070	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Carbon Tetrachloride	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Chlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Chlorodibromomethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Chloroethane	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Chloroform	ND	0.0046	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Chloromethane	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
2-Chlorotoluene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
4-Chlorotoluene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2-Dibromoethane (EDB)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Dibromomethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2-Dichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,3-Dichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,4-Dichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1-Dichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2-Dichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1-Dichloroethylene	ND	0.0046	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
cis-1,2-Dichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
trans-1,2-Dichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2-Dichloropropane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,3-Dichloropropane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
2,2-Dichloropropane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1-Dichloropropene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
cis-1,3-Dichloropropene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
trans-1,3-Dichloropropene	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Diethyl Ether	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Diisopropyl Ether (DIPE)	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,4-Dioxane	ND	0.12	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Ethylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-8 (10-12)

Sampled: 5/28/2019 15:45

Sample ID: 19E1819-08

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
2-Hexanone (MBK)	ND	0.023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Isopropylbenzene (Cumene)	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0046	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Methylene Chloride	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Naphthalene	ND	0.0046	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 8:37	MFF
n-Propylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Styrene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1,1,2-Tetrachloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1,2,2-Tetrachloroethane	ND	0.0012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Tetrachloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Tetrahydrofuran	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Toluene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2,3-Trichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2,4-Trichlorobenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1,1-Trichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,1,2-Trichloroethane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Trichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Trichlorofluoromethane (Freon 11)	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2,3-Trichloropropane	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,2,4-Trimethylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
1,3,5-Trimethylbenzene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
Vinyl Chloride	ND	0.012	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
m+p Xylene	ND	0.0046	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF
o-Xylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 8:37	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual
1,2-Dichloroethane-d4	110	70-130	6/4/19 8:37
Toluene-d8	96.9	70-130	6/4/19 8:37
4-Bromofluorobenzene	101	70-130	6/4/19 8:37

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-8 (10-12)

Sampled: 5/28/2019 15:45

Sample ID: 19E1819-08

Sample Matrix: Soil

## Petrolium Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
C19-C36 Aliphatics	870	71	mg/Kg dry	5		MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Unadjusted C11-C22 Aromatics	750	71	mg/Kg dry	5		MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
C11-C22 Aromatics	750	71	mg/Kg dry	5		MADEP-EPII-04-1.1	6/3/19	6/7/19 3:07	KLB
Acenaphthene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Acenaphthylene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Anthracene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPII-04-1.1	6/3/19	6/7/19 3:07	KLB
Benzo(a)anthracene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Benzo(a)pyrene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Benzo(b)fluoranthene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Benzo(g,h,i)perylene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Benzo(k)fluoranthene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Chrysene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Dibenz(a,h)anthracene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Fluoranthene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Fluorene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Indeno(1,2,3-cd)pyrene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
1-Methylnaphthalene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Naphthalene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Phenanthrene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPII-04-1.1	6/3/19	6/7/19 3:07	KLB
Pyrene	ND	0.71	mg/Kg dry	5	RL-08	MADEP-EPH-04-1.1	6/3/19	6/7/19 3:07	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	71.9	40-140						6/7/19 3:07	
o-Terphenyl (OTP)	75.0	40-140						6/7/19 3:07	
2-Bromonaphthalene	89.6	40-140						6/7/19 3:07	
2-Fluorobiphenyl	97.7	40-140						6/7/19 3:07	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GPI-8 (10-12)

Sampled: 5/28/2019 15:45

Sample ID: 19E1819-08

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.22

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
C5-C8 Aliphatics	ND	16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Unadjusted C9-C12 Aliphatics	ND	16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
C9-C12 Aliphatics	ND	16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
C9-C10 Aromatics	ND	16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Benzene	ND	0.079	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Ethylbenzene	ND	0.079	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.079	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Naphthalene	ND	0.40	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Toluene	ND	0.079	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
m+p Xylene	ND	0.16	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
o-Xylene	ND	0.079	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 12:39	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
4,5-Dibromotoluene (FID)	101	70-130							
2,5-Dibromotoluene (PID)	97.3	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-8 (10-12)

Sampled: 5/28/2019 15:45

Sample ID: 19E1819-08

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.3	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Arsenic	13	2.3	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Barium	90	2.3	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Beryllium	0.38	0.23	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Cadmium	0.90	0.23	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Chromium	81	0.46	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Lead	91	0.69	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Mercury	0.11	0.036	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:48	AJL
Nickel	32	0.46	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Selenium	ND	4.6	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Silver	ND	0.46	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Thallium	ND	2.3	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Vanadium	68	0.92	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB
Zinc	390	0.92	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 21:55	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-8 (10-12)

Sampled: 5/28/2019 15:45

Sample ID: 19E1819-08

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	70.3		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GPI-9 (11-13)

Sampled: 5/29/2019 07:00

Sample ID: 19E1819-09

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.079	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 9:02	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Bromomethane	ND	0.0079	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 9:02	MFF
2-Butanone (MEK)	ND	0.032	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 9:02	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Carbon Disulfide	ND	0.0048	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Chlorodibromomethane	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Chloroethane	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Chloroform	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Chloromethane	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2-Dibromoethane (EDB)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1-Dichloroethylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,3-Dichloropropane	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
cis-1,3-Dichloropropene	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
trans-1,3-Dichloropropene	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Diethyl Ether	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Diisopropyl Ether (DIPE)	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,4-Dioxane	ND	0.079	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-9 (11-13)

Sampled: 5/29/2019 07:00

Sample ID: 19E1819-09

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Methylene Chloride	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Naphthalene	ND	0.0032	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 9:02	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1,2,2-Tetrachloroethane	ND	0.00079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Tetrahydrofuran	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
2,4-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Vinyl Chloride	ND	0.0079	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
m+p Xylene	ND	0.0032	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:02	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	105	70-130						6/4/19 9:02	
Toluene-d8	99.4	70-130						6/4/19 9:02	
4-Bromofluorobenzene	105	70-130						6/4/19 9:02	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-9 (11-13)

Sampled: 5/29/2019 07:00

Sample ID: 19E1819-09

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
1-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:33	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	72.7	40-140						6/7/19 1:33	
o-Terphenyl (OTP)	79.7	40-140						6/7/19 1:33	
2-Bromonaphthalene	117	40-140						6/7/19 1:33	
2-Fluorobiphenyl	124	40-140						6/7/19 1:33	



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-9 (11-13)

Sampled: 5/29/2019 07:00

Sample ID: 19E1819-09

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.43

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
C5-C8 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Unadjusted C9-C12 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
C9-C12 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
C9-C10 Aromatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Benzene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Ethylbenzene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Naphthalene	ND	0.20	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Toluene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
m+p Xylene	ND	0.079	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
o-Xylene	ND	0.039	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:08	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
5-Dibromotoluene (FID)	96.4	70-130							
1,5-Dibromotoluene (PID)	92.5	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-9 (11-13)

Sampled: 5/29/2019 07:00

Sample ID: 19E1819-09

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Barium	30	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Beryllium	0.19	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Chromium	5.8	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Lead	3.5	0.51	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:49	AJL
Nickel	5.5	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Vanadium	18	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB
Zinc	25	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:00	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-9 (11-13)

Sampled: 5/29/2019 07:00

Sample ID: 19E1819-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.0		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-1 (6-8)

Sampled: 5/29/2019 08:30

Sample ID: 19E1819-10

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.076	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 9:26	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Bromomethane	ND	0.0076	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 9:26	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 9:26	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Carbon Disulfide	ND	0.0045	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Chlorodibromomethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Chloroethane	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Chloromethane	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2-Dibromoethane (EDB)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,3-Dichloropropane	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
cis-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
trans-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Diethyl Ether	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Diisopropyl Ether (DIPE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,4-Dioxane	ND	0.076	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-1 (6-8)

Sampled: 5/29/2019 08:30

Sample ID: 19E1819-10

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Methylene Chloride	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Naphthalene	ND	0.0030	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 9:26	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1,2,2-Tetrachloroethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Tetrahydrofuran	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Vinyl Chloride	ND	0.0076	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:26	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	107	70-130						6/4/19 9:26	
Toluene-d8	100	70-130						6/4/19 9:26	
4-Bromofluorobenzene	105	70-130						6/4/19 9:26	

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Object Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-1 (6-8)

Sampled: 5/29/2019 08:30

Sample ID: 19E1819-10

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Benzo(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
2-Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 1:52	KLB
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
Chlorooctadecane (COD)	74.8	40-140						6/7/19 1:52	
o-Terphenyl (OTP)	87.9	40-140						6/7/19 1:52	
2-Bromonaphthalene	118	40-140						6/7/19 1:52	
2-Fluorobiphenyl	125	40-140						6/7/19 1:52	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-1 (6-8)

Sampled: 5/29/2019 08:30

Sample ID: 19E1819-10

Sample Matrix: Soil

Sample Flags: O-01

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.27

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
C5-C8 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Unadjusted C9-C12 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
C9-C12 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
C9-C10 Aromatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Benzene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Ethylbenzene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Naphthalene	ND	0.21	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Toluene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
m+p Xylene	ND	0.086	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
o-Xylene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 13:38	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,5-Dibromotoluene (FID)	104	70-130							
2,5-Dibromotoluene (PID)	99.4	70-130							

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-1 (6-8)

Sampled: 5/29/2019 08:30

Sample ID: 19E1819-10

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Barium	23	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Beryllium	0.29	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Chromium	38	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Lead	7.6	0.51	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:51	AJL
Nickel	17	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Vanadium	41	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB
Zinc	39	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:05	EJB



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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-1 (6-8)

Sampled: 5/29/2019 08:30

Sample ID: 19E1819-10

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.3		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-2 (7-9)

Sampled: 5/29/2019 09:45

Sample ID: 19E1819-11

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.075	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 9:51	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Bromoform	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Bromomethane	ND	0.0075	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 9:51	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 9:51	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Carbon Disulfide	ND	0.0045	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Chlorodibromomethane	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Chloroethane	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Chloromethane	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2-Dibromoethane (EDB)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,3-Dichloropropane	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
cis-1,3-Dichloropropene	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
trans-1,3-Dichloropropene	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Diethyl Ether	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Diisopropyl Ether (DIPE)	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,4-Dioxane	ND	0.075	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-2 (7-9)

Sampled: 5/29/2019 09:45

Sample ID: 19E1819-11

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Methylene Chloride	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Naphthalene	ND	0.0030	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 9:51	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1,2,2-Tetrachloroethane	ND	0.00075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Tetrahydrofuran	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2,3-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2,4-Trichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Vinyl Chloride	ND	0.0075	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 9:51	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	103	70-130							
Toluene-d8	98.1	70-130							
4-Bromofluorobenzene	104	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-2 (7-9)

Sampled: 5/29/2019 09:45

Sample ID: 19E1819-11

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:11	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	79.1	40-140						6/7/19 2:11	
o-Terphenyl (OTP)	88.0	40-140						6/7/19 2:11	
2-Bromonaphthalene	118	40-140						6/7/19 2:11	
2-Fluorobiphenyl	125	40-140						6/7/19 2:11	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-2 (7-9)

Sampled: 5/29/2019 09:45

Sample ID: 19E1819-11

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.20

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
C5-C8 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Unadjusted C9-C12 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
C9-C12 Aliphatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
C9-C10 Aromatics	ND	9.1	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Benzene	ND	0.045	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Ethylbenzene	ND	0.045	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.045	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Naphthalene	ND	0.23	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Toluene	ND	0.045	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
m+p Xylene	ND	0.091	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
o-Xylene	ND	0.045	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:07	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,5-Dibromotoluene (FID)	101	70-130							
2,5-Dibromotoluene (PID)	98.2	70-130							

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-2 (7-9)

Sampled: 5/29/2019 09:45

Sample ID: 19E1819-11

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Arsenic	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Barium	19	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Beryllium	0.19	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Cadmium	ND	0.17	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Chromium	6.0	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Lead	4.0	0.51	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Mercury	ND	0.027	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:52	AJL
Nickel	5.4	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Selenium	ND	3.4	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Silver	ND	0.34	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Thallium	ND	1.7	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Vanadium	17	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB
Zinc	24	0.68	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:10	EJB

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-2 (7-9)

Sampled: 5/29/2019 09:45

Sample ID: 19E1819-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	96.0		% Wt	1		SM 2540G	6/5/19	6/5/19 15:47	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Site Received: 5/31/2019

Field Sample #: GP2-3 (7-9)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-12

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.072	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 10:15	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Benzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Bromobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Bromochloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Bromodichloromethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Bromoform	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Bromomethane	ND	0.0072	mg/Kg dry	1	V-34	SW-846 8260C	6/4/19	6/4/19 10:15	MFF
2-Butanone (MEK)	ND	0.029	mg/Kg dry	1	R-05	SW-846 8260C	6/4/19	6/4/19 10:15	MFF
n-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
sec-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
tert-Butylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Carbon Disulfide	ND	0.0043	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Carbon Tetrachloride	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Chlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Chlorodibromomethane	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Chloroethane	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Chloroform	ND	0.0029	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Chloromethane	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
2-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
4-Chlorotoluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2-Dibromoethane (EDB)	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Dibromomethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,3-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,4-Dichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2-Dichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1-Dichloroethylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
cis-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
trans-1,2-Dichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,3-Dichloropropane	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
2,2-Dichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1-Dichloropropene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
cis-1,3-Dichloropropene	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
trans-1,3-Dichloropropene	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Diethyl Ether	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Isopropyl Ether (DIPE)	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,4-Dioxane	ND	0.072	mg/Kg dry	1	V-16	SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Ethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-3 (7-9)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-12

Sample Matrix: Soil

## Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
2-Hexanone (MBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Isopropylbenzene (Cumene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0029	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Methylene Chloride	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Naphthalene	ND	0.0029	mg/Kg dry	1	V-05	SW-846 8260C	6/4/19	6/4/19 10:15	MFF
n-Propylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Styrene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1,1,2-Tetrachloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1,2,2-Tetrachloroethane	ND	0.00072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Tetrachloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Tetrahydrofuran	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Toluene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2,3-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
2,4-Trichlorobenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1,1-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,1,2-Trichloroethane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Trichloroethylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2,3-Trichloropropane	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,2,4-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
1,3,5-Trimethylbenzene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Vinyl Chloride	ND	0.0072	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
m+p Xylene	ND	0.0029	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
o-Xylene	ND	0.0014	mg/Kg dry	1		SW-846 8260C	6/4/19	6/4/19 10:15	MFF
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
1,2-Dichloroethane-d4	112	70-130							
Toluene-d8	99.1	70-130							
4-Bromofluorobenzene	106	70-130							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-3 (7-9)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-12

Sample Matrix: Soil

## Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Unadjusted C11-C22 Aromatics	17	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
C11-C22 Aromatics	13	11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Benzo(a)anthracene	0.29	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Benzo(a)pyrene	0.63	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Benzo(b)fluoranthene	0.64	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Benzo(g,h,i)perylene	0.33	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Benzo(k)fluoranthene	0.23	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Chrysene	0.37	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Fluoranthene	0.78	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Indeno(1,2,3-cd)pyrene	0.34	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Phenanthrene	0.26	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Pyrene	0.56	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	6/3/19	6/7/19 2:30	KLB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Chlorooctadecane (COD)	73.4	40-140						6/7/19 2:30	
o-Terphenyl (OTP)	83.5	40-140						6/7/19 2:30	
2-Bromonaphthalene	118	40-140						6/7/19 2:30	
2-Fluorobiphenyl	129	40-140						6/7/19 2:30	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-3 (7-9)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-12

Sample Matrix: Soil

Sample Flags: O-01

## Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.42

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
C5-C8 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Unadjusted C9-C12 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
C9-C12 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
C9-C10 Aromatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Benzene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Ethylbenzene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Naphthalene	ND	0.21	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Toluene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
m+p Xylene	ND	0.086	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
o-Xylene	ND	0.043	mg/Kg dry	1		MADEP-VPH-Feb 2018 Rev 2.1	6/3/19	6/3/19 14:36	KMB
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,5-Dibromotoluene (FID)	101	70-130							
2,5-Dibromotoluene (PID)	96.6	70-130							

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-3 (7-9)

Sampled: 5/28/2019 10:50

Sample ID: 19E1819-12

Sample Matrix: Soil

## Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Arsenic	4.4	1.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Barium	48	1.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Beryllium	0.31	0.18	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Cadmium	0.38	0.18	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Chromium	11	0.36	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Lead	110	0.54	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Mercury	0.080	0.026	mg/Kg dry	1		SW-846 7471B	6/6/19	6/7/19 10:54	AJL
Nickel	10	0.36	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Selenium	ND	3.6	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Silver	ND	0.36	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Thallium	ND	1.8	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Vanadium	33	0.72	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB
Zinc	70	0.72	mg/Kg dry	1		SW-846 6010D	6/5/19	6/6/19 22:15	EJB

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Project Location: Beaver St., Waltham, MA      Sample Description:      Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP2-3 (7-9)      Sampled: 5/28/2019 10:50

Sample ID: 19E1819-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.8		% Wt	1		SM 2540G	6/5/19	6/5/19 15:48	JDN

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (0-2)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-13

Sample Matrix: Soil

Sample Flags: DL-03

## Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
alpha-BHC [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
beta-BHC [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
delta-BHC [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
gamma-BHC (Lindane) [1]	ND	0.012	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Chlordane [1]	ND	0.12	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
4,4'-DDD [1]	ND	0.025	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
4,4'-DDE [1]	0.57	0.025	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
4,4'-DDT [1]	0.48	0.025	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Dieldrin [1]	ND	0.025	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Endosulfan I [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Endosulfan II [1]	ND	0.050	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Endosulfan sulfate [1]	ND	0.050	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Endrin [1]	ND	0.050	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Endrin ketone [1]	ND	0.050	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Heptachlor [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Heptachlor epoxide [1]	ND	0.031	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Hexachlorobenzene [1]	ND	0.037	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Methoxychlor [1]	ND	0.31	mg/Kg dry	5		SW-846 8081B	6/3/19	6/6/19 22:30	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	78.1	30-150						6/6/19 22:30	
Decachlorobiphenyl [2]	73.6	30-150						6/6/19 22:30	
Tetrachloro-m-xylene [1]	65.9	30-150						6/6/19 22:30	
Tetrachloro-m-xylene [2]	61.4	30-150						6/6/19 22:30	

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Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (0-2)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-13

Sample Matrix: Soil

## Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	160	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
2,4-DB [1]	ND	160	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
2,4,5-TP (Silvex) [1]	ND	16	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
2,4,5-T [1]	ND	16	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
Dalapon [1]	ND	390	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
Dicamba [1]	ND	16	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
Dichloroprop [1]	ND	160	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
Dinoseb [1]	ND	78	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
MCPA [1]	ND	16000	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
MCPP [1]	ND	16000	µg/kg dry	5	DL-03	SW-846 8151A	6/4/19	6/10/19 6:15	TG
Surrogates	% Recovery	Recovery Limits			Flag/Qual				
2,4-Dichlorophenylacetic acid [1]	74.3	30-150			DL-03			6/10/19 6:15	
2,4-Dichlorophenylacetic acid [2]	82.4	30-150			DL-03			6/10/19 6:15	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-2 (0-2)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-13

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1221 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1232 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1242 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1248 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1254 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1260 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1262 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Aroclor-1268 [1]	ND	0.097	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 21:47	AYH
Surrogates	% Recovery		Recovery Limits		Flag/Qual				
Decachlorobiphenyl [1]	89.1		30-150				6/5/19 21:47		
Decachlorobiphenyl [2]	97.4		30-150				6/5/19 21:47		
Tetrachloro-m-xylene [1]	94.0		30-150				6/5/19 21:47		
Tetrachloro-m-xylene [2]	94.6		30-150				6/5/19 21:47		



Project Location: Beaver St., Waltham, MA 39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332  
Sample Description:

Date Received: 5/31/2019

Work Order: 19E1819

Field Sample #: GP1-2 (0-2)

Sampled: 5/28/2019 10:00

Sample ID: 19E1819-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	79.7		% Wt	1		SM 2540G	6/5/19	6/5/19 15:48	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (3-5)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-14

Sample Matrix: Soil

## Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
alpha-BHC [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
beta-BHC [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
delta-BHC [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
gamma-BHC (Lindane) [1]	ND	0.0023	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Chlordane [1]	ND	0.023	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
4,4'-DDD [1]	ND	0.0047	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
4,4'-DDE [1]	0.027	0.0047	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
4,4'-DDT [2]	0.020	0.0047	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Dieldrin [1]	ND	0.0047	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Endosulfan I [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Endosulfan II [1]	ND	0.0094	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Endosulfan sulfate [1]	ND	0.0094	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Endrin [1]	ND	0.0094	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Endrin ketone [1]	ND	0.0094	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Heptachlor [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Heptachlor epoxide [1]	ND	0.0059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Hexachlorobenzene [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Methoxychlor [1]	ND	0.059	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 22:57	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	84.1	30-150							
Decachlorobiphenyl [2]	85.7	30-150							
Tetrachloro-m-xylene [1]	83.5	30-150							
Tetrachloro-m-xylene [2]	77.1	30-150							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (3-5)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-14

Sample Matrix: Soil

## Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	29	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
2,4-DB [1]	ND	29	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
2,4,5-TP (Silvex) [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
2,4,5-T [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
Dalapon [1]	ND	73	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
Dicamba [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
Dichloroprop [1]	ND	29	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
Dinoseb [1]	ND	15	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
MCPA [1]	ND	2900	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
MCPP [1]	ND	2900	µg/kg dry	1		SW-846 8151A	6/4/19	6/10/19 6:54	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,4-Dichlorophenylacetic acid [1]	79.9	30-150						6/10/19 6:54	
2,4-Dichlorophenylacetic acid [2]	84.0	30-150						6/10/19 6:54	

Project Location: Beaver St., Waltham, MA      39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332  
 Date Received: 5/31/2019      Sample Description:      Work Order: 19E1819  
 Field Sample #: GP1-6 (3-5)      Sampled: 5/28/2019 13:50  
 Sample ID: 19E1819-14  
 Sample Matrix: Soil  
 Sample Flags: O-32      Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1221 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1232 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1242 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1248 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1254 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1260 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1262 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Aroclor-1268 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:00	AYH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	82.2	30-150							
Decachlorobiphenyl [2]	92.1	30-150							
Tetrachloro-m-xylene [1]	82.4	30-150							
Tetrachloro-m-xylene [2]	83.4	30-150							

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-6 (3-5)

Sampled: 5/28/2019 13:50

Sample ID: 19E1819-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.4		% Wt	1		SM 2540G	6/5/19	6/5/19 15:48	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (3-5)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-15

Sample Matrix: Soil

## Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
alpha-BHC [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
beta-BHC [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
delta-BHC [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
gamma-BHC (Lindane) [1]	ND	0.0028	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Chlordane [1]	0.11	0.028	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
4,4'-DDD [2]	0.44	0.22	mg/Kg dry	40		SW-846 8081B	6/3/19	6/7/19 8:33	TG
4,4'-DDE [1]	5.2	0.22	mg/Kg dry	40		SW-846 8081B	6/3/19	6/7/19 8:33	TG
4,4'-DDT [1]	12	0.44	mg/Kg dry	80		SW-846 8081B	6/3/19	6/7/19 11:14	TG
Dieldrin [1]	0.092	0.0056	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Endosulfan I [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Endosulfan II [1]	ND	0.011	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Endosulfan sulfate [1]	ND	0.011	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Endrin [1]	0.035	0.011	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Endrin ketone [1]	0.013	0.011	mg/Kg dry	1	P-02	SW-846 8081B	6/3/19	6/6/19 23:23	TG
Heptachlor [1]	ND	0.0070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Heptachlor epoxide [2]	0.0083	0.0070	mg/Kg dry	1	P-02	SW-846 8081B	6/3/19	6/6/19 23:23	TG
Hexachlorobenzene [1]	ND	0.0083	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Methoxychlor [1]	ND	0.070	mg/Kg dry	1		SW-846 8081B	6/3/19	6/6/19 23:23	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	73.1	30-150						6/6/19 23:23	
Decachlorobiphenyl [2]	80.5	30-150						6/6/19 23:23	
Tetrachloro-m-xylene [1]	66.3	30-150						6/6/19 23:23	
Tetrachloro-m-xylene [2]	59.7	30-150						6/6/19 23:23	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (3-5)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-15

Sample Matrix: Soil

Sample Flags: DL-03

## Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	170	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
2,4-DB [1]	ND	170	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
2,4,5-TP (Silvex) [1]	ND	17	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
2,4,5-T [1]	ND	17	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
Dalapon [1]	ND	430	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
Dicamba [1]	ND	17	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
Dichloroprop [1]	ND	170	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
Dinoseb [1]	ND	86	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
MCPA [1]	ND	17000	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
MCPP [1]	ND	17000	µg/kg dry	5		SW-846 8151A	6/4/19	6/10/19 7:32	TG
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
2,4-Dichlorophenylacetic acid [1]	70.3	30-150						6/10/19 7:32	
2,4-Dichlorophenylacetic acid [2]	81.3	30-150						6/10/19 7:32	

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (3-5)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-15

Sample Matrix: Soil

Sample Flags: O-32

## Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	4		SW-846 8082A	6/3/19	6/5/19 22:13	AYH
Surrogates	% Recovery	Recovery Limits	Flag/Qual						
Decachlorobiphenyl [1]	81.9	30-150							
Decachlorobiphenyl [2]	95.1	30-150							
Tetrachloro-m-xylene [1]	93.2	30-150							
Tetrachloro-m-xylene [2]	94.3	30-150							



39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

Project Location: Beaver St., Waltham, MA

Sample Description:

Work Order: 19E1819

Date Received: 5/31/2019

Field Sample #: GP1-7 (3-5)

Sampled: 5/28/2019 14:55

Sample ID: 19E1819-15

Sample Matrix: Soil

## Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	71.9		% Wt	1		SM 2540G	6/5/19	6/5/19 15:48	JDN

39 Spruce Street \* East Longmeadow, MA 01028 \* FAX 413/525-6405 \* TEL. 413/525-2332

### Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-01 [GP1-1 (11-13)]	B232351	20.0	2.00	06/03/19
19E1819-02 [GP1-2 (11-13)]	B232351	20.2	2.00	06/03/19
19E1819-03 [GP1-3 (11-13)]	B232351	20.0	2.00	06/03/19
19E1819-04 [GP1-4 (11-13)]	B232351	20.0	2.00	06/03/19
19E1819-05 [GP1-5 (11-13)]	B232351	20.0	2.00	06/03/19
19E1819-06 [GP1-6 (11-13)]	B232351	20.2	2.00	06/03/19
19E1819-07 [GP1-7 (10-12)]	B232351	20.2	2.00	06/03/19
19E1819-08 [GP1-8 (10-12)]	B232351	20.1	2.00	06/03/19
19E1819-09 [GP1-9 (11-13)]	B232351	20.0	2.00	06/03/19
19E1819-10 [GP2-1 (6-8)]	B232351	20.0	2.00	06/03/19
19E1819-11 [GP2-2 (7-9)]	B232351	20.3	2.00	06/03/19
19E1819-12 [GP2-3 (7-9)]	B232351	20.3	2.00	06/03/19

Prep Method: MA VPH-MADEP-VPH-Feb 2018 Rev 2.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-08 [GP1-8 (10-12)]	B232287	6.10	6.80	06/03/19
19E1819-09 [GP1-9 (11-13)]	B232287	21.5	16.1	06/03/19
19E1819-10 [GP2-1 (6-8)]	B232287	6.30	5.20	06/03/19
19E1819-11 [GP2-2 (7-9)]	B232287	18.0	15.7	06/03/19
19E1819-12 [GP2-3 (7-9)]	B232287	7.10	5.60	06/03/19

Prep Method: MA VPH-MADEP-VPH-Feb 2018 Rev 2.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-01 [GP1-1 (11-13)]	B232289	20.9	15.8	06/03/19
19E1819-02 [GP1-2 (11-13)]	B232289	19.5	16.5	06/03/19
19E1819-03 [GP1-3 (11-13)]	B232289	7.40	5.30	06/03/19
19E1819-04 [GP1-4 (11-13)]	B232289	20.9	15.6	06/03/19
19E1819-05 [GP1-5 (11-13)]	B232289	21.2	16.1	06/03/19
19E1819-06 [GP1-6 (11-13)]	B232289	7.50	5.40	06/03/19
19E1819-07 [GP1-7 (10-12)]	B232289	18.6	25.6	06/03/19

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
19E1819-01 [GP1-1 (11-13)]	B232510	06/05/19
19E1819-02 [GP1-2 (11-13)]	B232510	06/05/19
19E1819-03 [GP1-3 (11-13)]	B232510	06/05/19
19E1819-04 [GP1-4 (11-13)]	B232510	06/05/19
19E1819-05 [GP1-5 (11-13)]	B232510	06/05/19
19E1819-06 [GP1-6 (11-13)]	B232510	06/05/19
19E1819-07 [GP1-7 (10-12)]	B232510	06/05/19
19E1819-08 [GP1-8 (10-12)]	B232510	06/05/19
19E1819-09 [GP1-9 (11-13)]	B232510	06/05/19
19E1819-10 [GP2-1 (6-8)]	B232510	06/05/19
19E1819-11 [GP2-2 (7-9)]	B232510	06/05/19
19E1819-12 [GP2-3 (7-9)]	B232510	06/05/19
19E1819-13 [GP1-2 (0-2)]	B232510	06/05/19
19E1819-14 [GP1-6 (3-5)]	B232510	06/05/19
19E1819-15 [GP1-7 (3-5)]	B232510	06/05/19

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### Sample Extraction Data

Prep Method: SW-846 3050B-SW-846 6010D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-01 [GP1-1 (11-13)]	B232592	1.48	50.0	06/05/19
19E1819-02 [GP1-2 (11-13)]	B232592	1.51	50.0	06/05/19
19E1819-03 [GP1-3 (11-13)]	B232592	1.54	50.0	06/05/19
19E1819-04 [GP1-4 (11-13)]	B232592	1.49	50.0	06/05/19
19E1819-05 [GP1-5 (11-13)]	B232592	1.56	50.0	06/05/19
19E1819-06 [GP1-6 (11-13)]	B232592	1.54	50.0	06/05/19
19E1819-07 [GP1-7 (10-12)]	B232592	1.55	50.0	06/05/19
19E1819-08 [GP1-8 (10-12)]	B232592	1.55	50.0	06/05/19
19E1819-09 [GP1-9 (11-13)]	B232592	1.54	50.0	06/05/19
19E1819-10 [GP2-1 (6-8)]	B232592	1.53	50.0	06/05/19
19E1819-11 [GP2-2 (7-9)]	B232592	1.53	50.0	06/05/19
19E1819-12 [GP2-3 (7-9)]	B232592	1.51	50.0	06/05/19

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-01 [GP1-1 (11-13)]	B232653	0.609	50.0	06/06/19
19E1819-02 [GP1-2 (11-13)]	B232653	0.616	50.0	06/06/19
19E1819-03 [GP1-3 (11-13)]	B232653	0.624	50.0	06/06/19
19E1819-04 [GP1-4 (11-13)]	B232653	0.633	50.0	06/06/19
19E1819-05 [GP1-5 (11-13)]	B232653	0.607	50.0	06/06/19
19E1819-06 [GP1-6 (11-13)]	B232653	0.626	50.0	06/06/19
19E1819-07 [GP1-7 (10-12)]	B232653	0.613	50.0	06/06/19
19E1819-08 [GP1-8 (10-12)]	B232653	0.596	50.0	06/06/19
19E1819-09 [GP1-9 (11-13)]	B232653	0.606	50.0	06/06/19
19E1819-10 [GP2-1 (6-8)]	B232653	0.591	50.0	06/06/19
19E1819-11 [GP2-2 (7-9)]	B232653	0.585	50.0	06/06/19
19E1819-12 [GP2-3 (7-9)]	B232653	0.619	50.0	06/06/19

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-13 [GP1-2 (0-2)]	B232333	10.1	10.0	06/03/19
19E1819-14 [GP1-6 (3-5)]	B232333	10.0	10.0	06/03/19
19E1819-15 [GP1-7 (3-5)]	B232333	10.0	10.0	06/03/19

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-13 [GP1-2 (0-2)]	B232317	10.3	10.0	06/03/19
19E1819-14 [GP1-6 (3-5)]	B232317	10.2	10.0	06/03/19
19E1819-15 [GP1-7 (3-5)]	B232317	10.3	10.0	06/03/19

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-13 [GP1-2 (0-2)]	B232364	20.2	5.00	06/04/19
19E1819-14 [GP1-6 (3-5)]	B232364	20.0	5.00	06/04/19
19E1819-15 [GP1-7 (3-5)]	B232364	20.2	5.00	06/04/19

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### Sample Extraction Data

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-01 [GP1-1 (11-13)]	B232325	6.73	10.0	06/03/19
19E1819-02 [GP1-2 (11-13)]	B232325	6.68	10.0	06/03/19
19E1819-03 [GP1-3 (11-13)]	B232325	8.20	10.0	06/03/19
19E1819-04 [GP1-4 (11-13)]	B232325	8.32	10.0	06/03/19

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
19E1819-05 [GP1-5 (11-13)]	B232391	7.62	10.0	06/04/19
19E1819-06 [GP1-6 (11-13)]	B232391	6.73	10.0	06/04/19
19E1819-07 [GP1-7 (10-12)]	B232391	9.49	10.0	06/04/19
19E1819-08 [GP1-8 (10-12)]	B232391	6.13	10.0	06/04/19
19E1819-09 [GP1-9 (11-13)]	B232391	6.64	10.0	06/04/19
19E1819-10 [GP2-1 (6-8)]	B232391	6.86	10.0	06/04/19
19E1819-11 [GP2-2 (7-9)]	B232391	6.94	10.0	06/04/19
19E1819-12 [GP2-3 (7-9)]	B232391	7.56	10.0	06/04/19

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232325 - SW-846 5035										
Blank (B232325-BLK1)										
Prepared & Analyzed: 06/03/19										
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							V-34
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							V-16
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							V-05

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232325 - SW-846 5035										
Blank (B232325-BLK1)										
Prepared & Analyzed: 06/03/19										
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							V-05
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0541		mg/Kg wet	0.0500		108	70-130			
Surrogate: Toluene-d8	0.0513		mg/Kg wet	0.0500		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.0512		mg/Kg wet	0.0500		102	70-130			
LCS (B232325-BS1)										
Prepared & Analyzed: 06/03/19										
Acetone	0.246	0.10	mg/Kg wet	0.200		123	40-160			†
tert-Amyl Methyl Ether (TAME)	0.0206	0.0010	mg/Kg wet	0.0200		103	70-130			
Benzene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130			
Bromobenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130			
Bromochloromethane	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130			
Bromodichloromethane	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130			
Bromoform	0.0241	0.0020	mg/Kg wet	0.0200		120	70-130			
Bromomethane	0.0149	0.010	mg/Kg wet	0.0200		74.5	40-160			
2-Butanone (MEK)	0.192	0.040	mg/Kg wet	0.200		95.8	40-160			V-34 †
n-Butylbenzene	0.0178	0.0020	mg/Kg wet	0.0200		88.9	70-130			†
sec-Butylbenzene	0.0182	0.0020	mg/Kg wet	0.0200		90.8	70-130			
tert-Butylbenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.9	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0194	0.0010	mg/Kg wet	0.0200		97.0	70-130			
Carbon Disulfide	0.0261	0.0060	mg/Kg wet	0.0200		130	70-130			
Carbon Tetrachloride	0.0237	0.0020	mg/Kg wet	0.0200		119	70-130			
Chlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130			V-20
Chlorodibromomethane	0.0255	0.0010	mg/Kg wet	0.0200		128	70-130			
Chloroethane	0.0235	0.010	mg/Kg wet	0.0200		117	70-130			
Chloroform	0.0210	0.0040	mg/Kg wet	0.0200		105	70-130			
Chloromethane	0.0158	0.010	mg/Kg wet	0.0200		78.8	40-160			†
2-Chlorotoluene	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130			
4-Chlorotoluene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0173	0.0020	mg/Kg wet	0.0200		86.3	70-130			
1,2-Dibromoethane (EDB)	0.0223	0.0010	mg/Kg wet	0.0200		112	70-130			
Bromomethane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2-Dichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.7	70-130			
1,3-Dichlorobenzene	0.0185	0.0020	mg/Kg wet	0.0200		92.5	70-130			
1,4-Dichlorobenzene	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130			

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232325 - SW-846 5035										
LCS (B232325-BS1)										
Prepared & Analyzed: 06/03/19										
Dichlorodifluoromethane (Freon 12)	0.0138	0.010	mg/Kg wet	0.0200		69.0	40-160			L-14 †
1,1-Dichloroethane	0.0193	0.0020	mg/Kg wet	0.0200		96.7	70-130			
1,2-Dichloroethane	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130			
1,1-Dichloroethylene	0.0242	0.0040	mg/Kg wet	0.0200		121	70-130			
cis-1,2-Dichloroethylene	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130			
trans-1,2-Dichloroethylene	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130			
1,2-Dichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.3	70-130			
1,3-Dichloropropane	0.0193	0.0010	mg/Kg wet	0.0200		96.6	70-130			
2,2-Dichloropropane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
1,1-Dichloropropene	0.0196	0.0020	mg/Kg wet	0.0200		98.0	70-130			
cis-1,3-Dichloropropene	0.0193	0.0010	mg/Kg wet	0.0200		96.4	70-130			
trans-1,3-Dichloropropene	0.0229	0.0010	mg/Kg wet	0.0200		114	70-130			
Diethyl Ether	0.0215	0.010	mg/Kg wet	0.0200		108	70-130			
Diisopropyl Ether (DIPE)	0.0179	0.0010	mg/Kg wet	0.0200		89.5	70-130			
1,4-Dioxane	0.201	0.10	mg/Kg wet	0.200		101	40-160			V-16 †
Ethylbenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130			
Hexachlorobutadiene	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130			
2-Hexanone (MBK)	0.196	0.020	mg/Kg wet	0.200		98.1	40-160			†
Isopropylbenzene (Cumene)	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130			
p-Propyltoluene (p-Cymene)	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0220	0.0040	mg/Kg wet	0.0200		110	70-130			
Methylene Chloride	0.0225	0.010	mg/Kg wet	0.0200		113	70-130			
4-Methyl-2-pentanone (MIBK)	0.197	0.020	mg/Kg wet	0.200		98.3	40-160			†
Naphthalene	0.0163	0.0040	mg/Kg wet	0.0200		81.5	70-130			V-05 †
n-Propylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
Styrene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130			
1,1,1,2-Tetrachloroethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130			
1,1,2,2-Tetrachloroethane	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130			
Tetrachloroethylene	0.0237	0.0020	mg/Kg wet	0.0200		118	70-130			
Tetrahydrofuran	0.0176	0.010	mg/Kg wet	0.0200		87.8	70-130			
Toluene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2,3-Trichlorobenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.6	70-130			
1,2,4-Trichlorobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130			V-05
1,1,1-Trichloroethane	0.0245	0.0020	mg/Kg wet	0.0200		122	70-130			V-20
1,1,2-Trichloroethane	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
Trichloroethylene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130			
Trichlorofluoromethane (Freon 11)	0.0246	0.010	mg/Kg wet	0.0200		123	70-130			V-20
1,2,3-Trichloropropane	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130			
1,2,4-Trimethylbenzene	0.0173	0.0020	mg/Kg wet	0.0200		86.5	70-130			
1,3,5-Trimethylbenzene	0.0225	0.0020	mg/Kg wet	0.0200		113	70-130			
Vinyl Chloride	0.0169	0.010	mg/Kg wet	0.0200		84.7	70-130			
m+p Xylene	0.0409	0.0040	mg/Kg wet	0.0400		102	70-130			
o-Xylene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0543		mg/Kg wet	0.0500		109	70-130			
Surrogate: Toluene-d8	0.0482		mg/Kg wet	0.0500		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.0570		mg/Kg wet	0.0500		114	70-130			

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232325 - SW-846 5035										
LCS Dup (B232325-BSD1)				Prepared & Analyzed: 06/03/19						
Acetone	0.243	0.10	mg/Kg wet	0.200		122	40-160	1.12	20	†
tert-Amyl Methyl Ether (TAME)	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	0.779	20	
Benzene	0.0186	0.0020	mg/Kg wet	0.0200		93.2	70-130	2.62	20	
Bromobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	9.32	20	
Bromochloromethane	0.0191	0.0020	mg/Kg wet	0.0200		95.4	70-130	0.616	20	
Bromodichloromethane	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130	1.12	20	
Bromoform	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	13.2	20	
Bromomethane	0.0149	0.010	mg/Kg wet	0.0200		74.3	40-160	0.282	20	V-34 †
2-Butanone (MEK)	0.182	0.040	mg/Kg wet	0.200		91.0	40-160	5.15	20	†
n-Butylbenzene	0.0175	0.0020	mg/Kg wet	0.0200		87.6	70-130	1.39	20	
sec-Butylbenzene	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130	0.386	20	
tert-Butylbenzene	0.0176	0.0020	mg/Kg wet	0.0200		88.1	70-130	1.98	20	
tert-Butyl Ethyl Ether (TBEE)	0.0188	0.0010	mg/Kg wet	0.0200		94.0	70-130	3.19	20	
Carbon Disulfide	0.0251	0.0060	mg/Kg wet	0.0200		126	70-130	3.72	20	
Carbon Tetrachloride	0.0238	0.0020	mg/Kg wet	0.0200		119	70-130	0.118	20	V-20
Chlorobenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	0.166	20	
Chlorodibromomethane	0.0246	0.0010	mg/Kg wet	0.0200		123	70-130	3.83	20	
Chloroethane	0.0229	0.010	mg/Kg wet	0.0200		114	70-130	2.52	20	
Chloroform	0.0208	0.0040	mg/Kg wet	0.0200		104	70-130	1.23	20	
Chloromethane	0.0151	0.010	mg/Kg wet	0.0200		75.7	40-160	4.12	20	†
Chlorotoluene	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130	10.4	20	
4-Chlorotoluene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	8.42	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0184	0.0020	mg/Kg wet	0.0200		92.1	70-130	6.47	20	
1,2-Dibromoethane (EDB)	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130	9.43	20	
Dibromomethane	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	3.42	20	
1,2-Dichlorobenzene	0.0180	0.0020	mg/Kg wet	0.0200		89.8	70-130	2.07	20	
1,3-Dichlorobenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.6	70-130	1.01	20	
1,4-Dichlorobenzene	0.0171	0.0020	mg/Kg wet	0.0200		85.6	70-130	2.78	20	
Dichlorodifluoromethane (Freon 12)	0.0129	0.010	mg/Kg wet	0.0200		64.3	40-160	7.02	20	L-14 †
1,1-Dichloroethane	0.0186	0.0020	mg/Kg wet	0.0200		93.0	70-130	3.92	20	
1,2-Dichloroethane	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130	2.36	20	
1,1-Dichloroethylene	0.0239	0.0040	mg/Kg wet	0.0200		119	70-130	1.44	20	
cis-1,2-Dichloroethylene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130	1.61	20	
trans-1,2-Dichloroethylene	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	0.606	20	
1,2-Dichloropropane	0.0197	0.0020	mg/Kg wet	0.0200		98.4	70-130	1.12	20	
1,3-Dichloropropane	0.0195	0.0010	mg/Kg wet	0.0200		97.4	70-130	0.783	20	
2,2-Dichloropropane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	5.28	20	
1,1-Dichloropropene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	3.36	20	
cis-1,3-Dichloropropene	0.0193	0.0010	mg/Kg wet	0.0200		96.6	70-130	0.145	20	
trans-1,3-Dichloropropene	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	11.1	20	
Diethyl Ether	0.0209	0.010	mg/Kg wet	0.0200		105	70-130	2.80	20	
Diisopropyl Ether (DIPE)	0.0175	0.0010	mg/Kg wet	0.0200		87.5	70-130	2.29	20	
1,4-Dioxane	0.181	0.10	mg/Kg wet	0.200		90.3	40-160	10.7	20	V-16 †
Ethylbenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.3	70-130	4.79	20	
Hexachlorobutadiene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130	4.49	20	
2-Hexanone (MBK)	0.198	0.020	mg/Kg wet	0.200		99.0	40-160	0.950	20	†
Isopropylbenzene (Cumene)	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	8.51	20	
Isopropyltoluene (p-Cymene)	0.0183	0.0020	mg/Kg wet	0.0200		91.6	70-130	0.620	20	
Methyl tert-Butyl Ether (MTBE)	0.0214	0.0040	mg/Kg wet	0.0200		107	70-130	2.73	20	
Methylene Chloride	0.0209	0.010	mg/Kg wet	0.0200		104	70-130	7.52	20	
4-Methyl-2-pentanone (MIBK)	0.194	0.020	mg/Kg wet	0.200		96.8	40-160	1.50	20	†
Naphthalene	0.0149	0.0040	mg/Kg wet	0.0200		74.7	70-130	8.73	20	V-05



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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232325 - SW-846 5035										
LCS Dup (B232325-BSD1)				Prepared & Analyzed: 06/03/19						
n-Propylbenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.4	70-130	10.1	20	
Styrene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	8.23	20	
1,1,1,2-Tetrachloroethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	6.37	20	
1,1,2,2-Tetrachloroethane	0.0189	0.0010	mg/Kg wet	0.0200		94.7	70-130	11.5	20	
Tetrachloroethylene	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130	3.52	20	
Tetrahydrofuran	0.0162	0.010	mg/Kg wet	0.0200		81.1	70-130	7.93	20	
Toluene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	3.79	20	
1,2,3-Trichlorobenzene	0.0164	0.0020	mg/Kg wet	0.0200		81.9	70-130	9.03	20	
1,2,4-Trichlorobenzene	0.0168	0.0020	mg/Kg wet	0.0200		83.8	70-130	10.9	20	V-05
1,1,1-Trichloroethane	0.0241	0.0020	mg/Kg wet	0.0200		120	70-130	1.68	20	V-20
1,1,2-Trichloroethane	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130	1.10	20	
Trichloroethylene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	0.870	20	
Trichlorofluoromethane (Freon 11)	0.0242	0.010	mg/Kg wet	0.0200		121	70-130	1.89	20	V-20
1,2,3-Trichloropropane	0.0179	0.0020	mg/Kg wet	0.0200		89.4	70-130	10.9	20	
1,2,4-Trimethylbenzene	0.0169	0.0020	mg/Kg wet	0.0200		84.4	70-130	2.42	20	
1,3,5-Trimethylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	7.65	20	
Vinyl Chloride	0.0170	0.010	mg/Kg wet	0.0200		85.0	70-130	0.365	20	
m+p Xylene	0.0396	0.0040	mg/Kg wet	0.0400		98.9	70-130	3.36	20	
o-Xylene	0.0190	0.0020	mg/Kg wet	0.0200		94.8	70-130	8.91	20	
Surrogate: 1,2-Dichloroethane-d4	0.0523		mg/Kg wet	0.0500		105	70-130			
Surrogate: Toluene-d8	0.0489		mg/Kg wet	0.0500		97.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.0546		mg/Kg wet	0.0500		109	70-130			
Batch B232391 - SW-846 5035										
Blank (B232391-BLK1)				Prepared & Analyzed: 06/04/19						
Acetone	ND	0.10	mg/Kg wet							R-05
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-34
2-Butanone (MEK)	ND	0.040	mg/Kg wet							R-05
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
Dibromomethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232391 - SW-846 5035										
Blank (B232391-BLK1)										
Prepared & Analyzed: 06/04/19										
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							V-16
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							V-05
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0538		mg/Kg wet	0.0500		108	70-130			
Surrogate: Toluene-d8	0.0494		mg/Kg wet	0.0500		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.0514		mg/Kg wet	0.0500		103	70-130			

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232391 - SW-846 5035										
LCS (B232391-BS1)										
Prepared & Analyzed: 06/04/19										
Acetone	0.417	0.10	mg/Kg wet	0.200		208 *	40-160			L-07A, R-05 †
tert-Amyl Methyl Ether (TAME)	0.0222	0.0010	mg/Kg wet	0.0200		111	70-130			
Benzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130			
Bromobenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130			
Bromochloromethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
Bromodichloromethane	0.0242	0.0020	mg/Kg wet	0.0200		121	70-130			
Bromoform	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130			
Bromomethane	0.0136	0.010	mg/Kg wet	0.0200		67.9	40-160			V-34 †
2-Butanone (MEK)	0.277	0.040	mg/Kg wet	0.200		139	40-160			R-05, L-14 †
n-Butylbenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130			
sec-Butylbenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130			
tert-Butylbenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130			
tert-Butyl Ethyl Ether (TBEE)	0.0222	0.0010	mg/Kg wet	0.0200		111	70-130			
Carbon Disulfide	0.0266	0.0060	mg/Kg wet	0.0200		133 *	70-130			L-02, V-20
Carbon Tetrachloride	0.0260	0.0020	mg/Kg wet	0.0200		130	70-130			V-20
Chlorobenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
Chlorodibromomethane	0.0266	0.0010	mg/Kg wet	0.0200		133 *	70-130			L-07
Chloroethane	0.0237	0.010	mg/Kg wet	0.0200		118	70-130			
Chloroform	0.0237	0.0040	mg/Kg wet	0.0200		119	70-130			
Chloromethane	0.0146	0.010	mg/Kg wet	0.0200		72.9	40-160			†
2-Chlorotoluene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130			
4-Chlorotoluene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130			
1,2-Dibromoethane (EDB)	0.0214	0.0010	mg/Kg wet	0.0200		107	70-130			
Dibromomethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130			
1,2-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130			
1,3-Dichlorobenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130			
1,4-Dichlorobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130			
Dichlorodifluoromethane (Freon 12)	0.0120	0.010	mg/Kg wet	0.0200		60.2	40-160			L-14 †
1,1-Dichloroethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130			
1,2-Dichloroethane	0.0245	0.0020	mg/Kg wet	0.0200		123	70-130			V-20
1,1-Dichloroethylene	0.0254	0.0040	mg/Kg wet	0.0200		127	70-130			V-20
cis-1,2-Dichloroethylene	0.0223	0.0020	mg/Kg wet	0.0200		111	70-130			
trans-1,2-Dichloroethylene	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130			
1,2-Dichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.5	70-130			
1,3-Dichloropropane	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130			
2,2-Dichloropropane	0.0245	0.0020	mg/Kg wet	0.0200		123	70-130			
1,1-Dichloropropene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130			
cis-1,3-Dichloropropene	0.0210	0.0010	mg/Kg wet	0.0200		105	70-130			
trans-1,3-Dichloropropene	0.0225	0.0010	mg/Kg wet	0.0200		113	70-130			
Diethyl Ether	0.0218	0.010	mg/Kg wet	0.0200		109	70-130			
Diisopropyl Ether (DIPE)	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130			
1,4-Dioxane	0.194	0.10	mg/Kg wet	0.200		97.2	40-160			V-16 †
Ethylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130			
Hexachlorobutadiene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
2-Hexanone (MBK)	0.250	0.020	mg/Kg wet	0.200		125	40-160			†
Isopropylbenzene (Cumene)	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130			
Isopropyltoluene (p-Cymene)	0.0197	0.0020	mg/Kg wet	0.0200		98.6	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0241	0.0040	mg/Kg wet	0.0200		120	70-130			
Methylene Chloride	0.0228	0.010	mg/Kg wet	0.0200		114	70-130			
4-Methyl-2-pentanone (MIBK)	0.219	0.020	mg/Kg wet	0.200		109	40-160			†
Naphthalene	0.0161	0.0040	mg/Kg wet	0.0200		80.5	70-130			V-05

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232391 - SW-846 5035										
LCS (B232391-BS1)										
Prepared & Analyzed: 06/04/19										
n-Propylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130			
Styrene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
1,1,1,2-Tetrachloroethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130			
1,1,2,2-Tetrachloroethane	0.0204	0.0010	mg/Kg wet	0.0200		102	70-130			
Tetrachloroethylene	0.0252	0.0020	mg/Kg wet	0.0200		126	70-130			
Tetrahydrofuran	0.0180	0.010	mg/Kg wet	0.0200		90.1	70-130			
Toluene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130			
1,2,3-Trichlorobenzene	0.0174	0.0020	mg/Kg wet	0.0200		86.8	70-130			
1,2,4-Trichlorobenzene	0.0174	0.0020	mg/Kg wet	0.0200		87.2	70-130			
1,1,1-Trichloroethane	0.0259	0.0020	mg/Kg wet	0.0200		129	70-130			V-20
1,1,2-Trichloroethane	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130			
Trichloroethylene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130			
Trichlorofluoromethane (Freon 11)	0.0242	0.010	mg/Kg wet	0.0200		121	70-130			V-20
1,2,3-Trichloropropane	0.0185	0.0020	mg/Kg wet	0.0200		92.7	70-130			
1,2,4-Trimethylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		91.8	70-130			
1,3,5-Trimethylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130			
Vinyl Chloride	0.0169	0.010	mg/Kg wet	0.0200		84.3	70-130			
m+p Xylene	0.0411	0.0040	mg/Kg wet	0.0400		103	70-130			
o-Xylene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0528		mg/Kg wet	0.0500		106	70-130			
Surrogate: Toluene-d8	0.0506		mg/Kg wet	0.0500		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0538		mg/Kg wet	0.0500		108	70-130			
LCS Dup (B232391-BS1)										
Prepared & Analyzed: 06/04/19										
Acetone	0.315	0.10	mg/Kg wet	0.200		158	40-160	27.8 *	20	L-14, R-05 †
tert-Amyl Methyl Ether (TAME)	0.0209	0.0010	mg/Kg wet	0.0200		104	70-130	6.15	20	
Benzene	0.0188	0.0020	mg/Kg wet	0.0200		94.2	70-130	4.71	20	
Bromobenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130	7.56	20	
Bromochloromethane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	1.07	20	
Bromodichloromethane	0.0239	0.0020	mg/Kg wet	0.0200		119	70-130	1.31	20	
Bromoform	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130	2.97	20	
Bromomethane	0.0151	0.010	mg/Kg wet	0.0200		75.5	40-160	10.6	20	V-34 †
2-Butanone (MEK)	0.220	0.040	mg/Kg wet	0.200		110	40-160	23.0 *	20	R-05 †
n-Butylbenzene	0.0178	0.0020	mg/Kg wet	0.0200		89.1	70-130	7.53	20	
sec-Butylbenzene	0.0184	0.0020	mg/Kg wet	0.0200		92.1	70-130	5.15	20	
tert-Butylbenzene	0.0183	0.0020	mg/Kg wet	0.0200		91.5	70-130	7.17	20	
tert-Butyl Ethyl Ether (TBEE)	0.0211	0.0010	mg/Kg wet	0.0200		105	70-130	5.32	20	
Carbon Disulfide	0.0273	0.0060	mg/Kg wet	0.0200		136 *	70-130	2.57	20	L-02, V-20
Carbon Tetrachloride	0.0259	0.0020	mg/Kg wet	0.0200		129	70-130	0.547	20	V-20
Chlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.4	70-130	3.52	20	
Chlorodibromomethane	0.0256	0.0010	mg/Kg wet	0.0200		128	70-130	3.77	20	
Chloroethane	0.0232	0.010	mg/Kg wet	0.0200		116	70-130	1.89	20	
Chloroform	0.0222	0.0040	mg/Kg wet	0.0200		111	70-130	6.46	20	
Chloromethane	0.0157	0.010	mg/Kg wet	0.0200		78.4	40-160	7.36	20	†
2-Chlorotoluene	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130	5.86	20	
4-Chlorotoluene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	5.59	20	
1,2-Dibromo-3-chloropropane (DBCP)	0.0185	0.0020	mg/Kg wet	0.0200		92.4	70-130	0.163	20	
1,2-Dibromoethane (EDB)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130	2.62	20	
Bromomethane	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	2.56	20	
1,2-Dichlorobenzene	0.0180	0.0020	mg/Kg wet	0.0200		90.1	70-130	9.39	20	
1,3-Dichlorobenzene	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130	8.19	20	
1,4-Dichlorobenzene	0.0176	0.0020	mg/Kg wet	0.0200		87.8	70-130	6.12	20	

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## QUALITY CONTROL

## Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232391 - SW-846 5035										
LCS Dup (B232391-BSD1)					Prepared & Analyzed: 06/04/19					
Dichlorodifluoromethane (Freon 12)	0.0136	0.010	mg/Kg wet	0.0200		67.8	40-160	11.8	20	L-14 †
1,1-Dichloroethane	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130	2.77	20	
1,2-Dichloroethane	0.0239	0.0020	mg/Kg wet	0.0200		119	70-130	2.83	20	V-20
1,1-Dichloroethylene	0.0260	0.0040	mg/Kg wet	0.0200		130	70-130	2.41	20	V-20
cis-1,2-Dichloroethylene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	6.98	20	
trans-1,2-Dichloroethylene	0.0238	0.0020	mg/Kg wet	0.0200		119	70-130	5.69	20	
1,2-Dichloropropane	0.0194	0.0020	mg/Kg wet	0.0200		97.2	70-130	0.298	20	
1,3-Dichloropropane	0.0190	0.0010	mg/Kg wet	0.0200		95.1	70-130	8.54	20	
2,2-Dichloropropane	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	5.86	20	
1,1-Dichloropropene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	8.30	20	
cis-1,3-Dichloropropene	0.0203	0.0010	mg/Kg wet	0.0200		101	70-130	3.29	20	
trans-1,3-Dichloropropene	0.0220	0.0010	mg/Kg wet	0.0200		110	70-130	2.41	20	
Diethyl Ether	0.0233	0.010	mg/Kg wet	0.0200		117	70-130	6.88	20	
Diisopropyl Ether (DIPE)	0.0213	0.0010	mg/Kg wet	0.0200		107	70-130	0.433	20	
1,4-Dioxane	0.203	0.10	mg/Kg wet	0.200		102	40-160	4.31	20	V-16 †
Ethylbenzene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	3.22	20	
Hexachlorobutadiene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	2.58	20	
2-Hexanone (MBK)	0.206	0.020	mg/Kg wet	0.200		103	40-160	19.2	20	†
Isopropylbenzene (Cumene)	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130	3.46	20	
n-Isopropyltoluene (p-Cymene)	0.0186	0.0020	mg/Kg wet	0.0200		92.8	70-130	6.02	20	
Isobutyl tert-Butyl Ether (MTBE)	0.0266	0.0040	mg/Kg wet	0.0200		133 *	70-130	10.0	20	L-07
Methylene Chloride	0.0247	0.010	mg/Kg wet	0.0200		124	70-130	8.03	20	
4-Methyl-2-pentanone (MIBK)	0.200	0.020	mg/Kg wet	0.200		99.9	40-160	8.99	20	†
Naphthalene	0.0158	0.0040	mg/Kg wet	0.0200		79.0	70-130	1.91	20	V-05
n-Propylbenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	3.65	20	
Styrene	0.0191	0.0020	mg/Kg wet	0.0200		95.4	70-130	6.49	20	
1,1,1,2-Tetrachloroethane	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130	6.73	20	
1,1,2,2-Tetrachloroethane	0.0183	0.0010	mg/Kg wet	0.0200		91.3	70-130	10.9	20	
Tetrachloroethylene	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	8.68	20	
Tetrahydrofuran	0.0175	0.010	mg/Kg wet	0.0200		87.4	70-130	2.99	20	
Toluene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	5.19	20	
1,2,3-Trichlorobenzene	0.0173	0.0020	mg/Kg wet	0.0200		86.6	70-130	0.277	20	
1,2,4-Trichlorobenzene	0.0172	0.0020	mg/Kg wet	0.0200		86.2	70-130	1.22	20	
1,1,1-Trichloroethane	0.0248	0.0020	mg/Kg wet	0.0200		124	70-130	4.31	20	V-20
1,1,2-Trichloroethane	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130	2.23	20	
Trichloroethylene	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130	2.20	20	
Trichlorofluoromethane (Freon 11)	0.0262	0.010	mg/Kg wet	0.0200		131 *	70-130	7.72	20	L-07, V-20
1,2,3-Trichloropropane	0.0171	0.0020	mg/Kg wet	0.0200		85.4	70-130	8.13	20	
1,2,4-Trimethylbenzene	0.0170	0.0020	mg/Kg wet	0.0200		85.2	70-130	7.52	20	
1,3,5-Trimethylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	4.23	20	
Vinyl Chloride	0.0178	0.010	mg/Kg wet	0.0200		89.0	70-130	5.33	20	
m+p Xylene	0.0398	0.0040	mg/Kg wet	0.0400		99.5	70-130	3.12	20	
o-Xylene	0.0197	0.0020	mg/Kg wet	0.0200		98.4	70-130	3.38	20	
Surrogate: 1,2-Dichloroethane-d4	0.0534		mg/Kg wet	0.0500		107	70-130			
Surrogate: Toluene-d8	0.0503		mg/Kg wet	0.0500		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0547		mg/Kg wet	0.0500		109	70-130			

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## QUALITY CONTROL

## Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232333 - SW-846 3546										
Blank (B232333-BLK1)										
Prepared: 06/03/19 Analyzed: 06/06/19										
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Toxaphene	ND	0.10	mg/Kg wet							
Toxaphene [2C]	ND	0.10	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.176		mg/Kg wet	0.200		88.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.174		mg/Kg wet	0.200		87.1	30-150			
Surrogate: Tetrachloro-m-xylene	0.179		mg/Kg wet	0.200		89.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.186		mg/Kg wet	0.200		93.0	30-150			

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## QUALITY CONTROL

## Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232333 - SW-846 3546										
LCS (B232333-BS1)										
Prepared: 06/03/19 Analyzed: 06/06/19										
Aldrin	0.089	0.0050	mg/Kg wet	0.100		89.1	40-140			
Aldrin [2C]	0.089	0.0050	mg/Kg wet	0.100		89.4	40-140			
alpha-BHC	0.087	0.0050	mg/Kg wet	0.100		87.2	40-140			
alpha-BHC [2C]	0.093	0.0050	mg/Kg wet	0.100		92.6	40-140			
beta-BHC	0.083	0.0050	mg/Kg wet	0.100		82.9	40-140			
beta-BHC [2C]	0.082	0.0050	mg/Kg wet	0.100		82.0	40-140			
delta-BHC	0.076	0.0050	mg/Kg wet	0.100		76.2	40-140			
delta-BHC [2C]	0.083	0.0050	mg/Kg wet	0.100		83.5	40-140			
gamma-BHC (Lindane)	0.088	0.0020	mg/Kg wet	0.100		88.4	40-140			
gamma-BHC (Lindane) [2C]	0.090	0.0020	mg/Kg wet	0.100		90.5	40-140			
4,4'-DDD	0.089	0.0040	mg/Kg wet	0.100		88.7	40-140			
4,4'-DDD [2C]	0.091	0.0040	mg/Kg wet	0.100		91.1	40-140			
4,4'-DDE	0.090	0.0040	mg/Kg wet	0.100		90.4	40-140			
4,4'-DDE [2C]	0.091	0.0040	mg/Kg wet	0.100		91.2	40-140			
4,4'-DDT	0.088	0.0040	mg/Kg wet	0.100		88.0	40-140			
4,4'-DDT [2C]	0.085	0.0040	mg/Kg wet	0.100		84.7	40-140			
Dieldrin	0.088	0.0040	mg/Kg wet	0.100		88.4	40-140			
Dieldrin [2C]	0.088	0.0040	mg/Kg wet	0.100		88.4	40-140			
Endosulfan I	0.086	0.0050	mg/Kg wet	0.100		85.8	40-140			
Endosulfan I [2C]	0.087	0.0050	mg/Kg wet	0.100		86.7	40-140			
Endosulfan II	0.078	0.0080	mg/Kg wet	0.100		78.1	40-140			
Endosulfan II [2C]	0.079	0.0080	mg/Kg wet	0.100		78.6	40-140			
Endosulfan Sulfate	0.088	0.0080	mg/Kg wet	0.100		88.1	40-140			
Endosulfan Sulfate [2C]	0.086	0.0080	mg/Kg wet	0.100		86.0	40-140			
Endrin	0.089	0.0080	mg/Kg wet	0.100		88.6	40-140			
Endrin [2C]	0.087	0.0080	mg/Kg wet	0.100		86.8	40-140			
Endrin Ketone	0.085	0.0080	mg/Kg wet	0.100		84.7	40-140			
Endrin Ketone [2C]	0.083	0.0080	mg/Kg wet	0.100		82.9	40-140			
Heptachlor	0.066	0.0050	mg/Kg wet	0.100		65.8	40-140			
Heptachlor [2C]	0.088	0.0050	mg/Kg wet	0.100		88.5	40-140			
Heptachlor Epoxide	0.085	0.0050	mg/Kg wet	0.100		85.1	40-140			
Heptachlor Epoxide [2C]	0.085	0.0050	mg/Kg wet	0.100		84.8	40-140			
Hexachlorobenzene	0.10	0.0060	mg/Kg wet	0.100		101	40-140			
Hexachlorobenzene [2C]	0.094	0.0060	mg/Kg wet	0.100		93.5	40-140			
Methoxychlor	0.084	0.050	mg/Kg wet	0.100		84.2	40-140			
Methoxychlor [2C]	0.084	0.050	mg/Kg wet	0.100		83.9	40-140			
Surrogate: Decachlorobiphenyl	0.182		mg/Kg wet	0.200		91.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.180		mg/Kg wet	0.200		89.9	30-150			
Surrogate: Tetrachloro-m-xylene	0.184		mg/Kg wet	0.200		92.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.192		mg/Kg wet	0.200		96.1	30-150			
LCS Dup (B232333-BSD1)										
Prepared: 06/03/19 Analyzed: 06/06/19										
Aldrin	0.092	0.0050	mg/Kg wet	0.100		92.0	40-140	3.19	30	
Aldrin [2C]	0.093	0.0050	mg/Kg wet	0.100		92.7	40-140	3.63	30	
alpha-BHC	0.089	0.0050	mg/Kg wet	0.100		89.2	40-140	2.37	30	
alpha-BHC [2C]	0.096	0.0050	mg/Kg wet	0.100		95.8	40-140	3.39	30	
beta-BHC	0.085	0.0050	mg/Kg wet	0.100		84.8	40-140	2.26	30	
beta-BHC [2C]	0.084	0.0050	mg/Kg wet	0.100		84.0	40-140	2.40	30	
delta-BHC	0.078	0.0050	mg/Kg wet	0.100		77.9	40-140	2.27	30	
delta-BHC [2C]	0.085	0.0050	mg/Kg wet	0.100		85.4	40-140	2.35	30	
gamma-BHC (Lindane)	0.091	0.0020	mg/Kg wet	0.100		90.5	40-140	2.41	30	
gamma-BHC (Lindane) [2C]	0.093	0.0020	mg/Kg wet	0.100		92.6	40-140	2.35	30	

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## QUALITY CONTROL

## Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232333 - SW-846 3546										
LCS Dup (B232333-BSD1) Prepared: 06/03/19 Analyzed: 06/06/19										
4,4'-DDD	0.091	0.0040	mg/Kg wet	0.100		91.4	40-140	2.99	30	
4,4'-DDD [2C]	0.094	0.0040	mg/Kg wet	0.100		93.9	40-140	3.10	30	
4,4'-DDE	0.094	0.0040	mg/Kg wet	0.100		93.8	40-140	3.67	30	
4,4'-DDE [2C]	0.094	0.0040	mg/Kg wet	0.100		94.3	40-140	3.33	30	
4,4'-DDT	0.090	0.0040	mg/Kg wet	0.100		90.3	40-140	2.66	30	
4,4'-DDT [2C]	0.088	0.0040	mg/Kg wet	0.100		87.9	40-140	3.71	30	
Dieldrin	0.091	0.0040	mg/Kg wet	0.100		91.0	40-140	2.96	30	
Dieldrin [2C]	0.091	0.0040	mg/Kg wet	0.100		91.2	40-140	3.14	30	
Endosulfan I	0.088	0.0050	mg/Kg wet	0.100		88.3	40-140	2.86	30	
Endosulfan I [2C]	0.090	0.0050	mg/Kg wet	0.100		90.5	40-140	4.22	30	
Endosulfan II	0.080	0.0080	mg/Kg wet	0.100		80.5	40-140	2.96	30	
Endosulfan II [2C]	0.081	0.0080	mg/Kg wet	0.100		81.0	40-140	2.98	30	
Endosulfan Sulfate	0.090	0.0080	mg/Kg wet	0.100		89.7	40-140	1.86	30	
Endosulfan Sulfate [2C]	0.088	0.0080	mg/Kg wet	0.100		87.6	40-140	1.86	30	
Endrin	0.091	0.0080	mg/Kg wet	0.100		91.0	40-140	2.67	30	
Endrin [2C]	0.090	0.0080	mg/Kg wet	0.100		89.6	40-140	3.17	30	
Endrin Ketone	0.087	0.0080	mg/Kg wet	0.100		86.5	40-140	2.20	30	
Endrin Ketone [2C]	0.085	0.0080	mg/Kg wet	0.100		84.5	40-140	1.97	30	
Heptachlor	0.068	0.0050	mg/Kg wet	0.100		68.2	40-140	3.57	30	
Heptachlor [2C]	0.092	0.0050	mg/Kg wet	0.100		92.3	40-140	4.23	30	
γ-heptachlor Epoxide	0.088	0.0050	mg/Kg wet	0.100		87.8	40-140	3.07	30	
γ-heptachlor Epoxide [2C]	0.087	0.0050	mg/Kg wet	0.100		87.5	40-140	3.04	30	
Hexachlorobenzene	0.11	0.0060	mg/Kg wet	0.100		105	40-140	3.54	30	
Hexachlorobenzene [2C]	0.097	0.0060	mg/Kg wet	0.100		97.2	40-140	3.83	30	
Methoxychlor	0.087	0.050	mg/Kg wet	0.100		86.8	40-140	2.98	30	
Methoxychlor [2C]	0.088	0.050	mg/Kg wet	0.100		87.8	40-140	4.49	30	
Surrogate: Decachlorobiphenyl	0.189		mg/Kg wet	0.200		94.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.187		mg/Kg wet	0.200		93.7	30-150			
Surrogate: Tetrachloro-m-xylene	0.192		mg/Kg wet	0.200		96.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.196		mg/Kg wet	0.200		97.8	30-150			



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## QUALITY CONTROL

## Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232364 - SW-846 8151										
Blank (B232364-BLK1)										
Prepared: 06/04/19 Analyzed: 06/10/19										
2,4-D	ND	24	µg/kg wet							
2,4-D [2C]	ND	24	µg/kg wet							
2,4-DB	ND	24	µg/kg wet							
2,4-DB [2C]	ND	24	µg/kg wet							
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet							
2,4,5-T	ND	2.4	µg/kg wet							
2,4,5-T [2C]	ND	2.4	µg/kg wet							
Dalapon	ND	60	µg/kg wet							
Dalapon [2C]	ND	60	µg/kg wet							
Dicamba	ND	2.4	µg/kg wet							
Dicamba [2C]	ND	2.4	µg/kg wet							
Dichloroprop	ND	24	µg/kg wet							
Dichloroprop [2C]	ND	24	µg/kg wet							
Dinoseb	ND	12	µg/kg wet							
Dinoseb [2C]	ND	12	µg/kg wet							
MCPA	ND	2400	µg/kg wet							
MCPA [2C]	ND	2400	µg/kg wet							
MCPP	ND	2400	µg/kg wet							
MCPP [2C]	ND	2400	µg/kg wet							
Surrogate: 2,4-Dichlorophenylacetic acid	74.6		µg/kg wet	95.2		78.3	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	75.2		µg/kg wet	95.2		79.0	30-150			
LCS (B232364-BS1)										
Prepared: 06/04/19 Analyzed: 06/10/19										
2,4-D	117	25	µg/kg wet	125		93.8	40-140			
2,4-D [2C]	118	25	µg/kg wet	125		94.5	40-140			
2,4-DB	121	25	µg/kg wet	125		97.1	40-140			
2,4-DB [2C]	120	25	µg/kg wet	125		96.0	40-140			
2,4,5-TP (Silvex)	12.4	2.5	µg/kg wet	12.5		99.1	40-140			
2,4,5-TP (Silvex) [2C]	12.2	2.5	µg/kg wet	12.5		97.6	40-140			
2,4,5-T	12.3	2.5	µg/kg wet	12.5		98.4	40-140			
2,4,5-T [2C]	26.7	2.5	µg/kg wet	12.5		214 *	40-140			
Dalapon	214	62	µg/kg wet	312		68.4	40-140			L-11
Dalapon [2C]	214	62	µg/kg wet	312		68.6	40-140			
Dicamba	11.3	2.5	µg/kg wet	12.5		90.1	40-140			
Dicamba [2C]	11.4	2.5	µg/kg wet	12.5		90.9	40-140			
Dichloroprop	122	25	µg/kg wet	125		97.5	40-140			
Dichloroprop [2C]	125	25	µg/kg wet	125		100	40-140			
Dinoseb	19.0	12	µg/kg wet	62.5		30.4	0-42.4			
Dinoseb [2C]	21.6	12	µg/kg wet	62.5		34.6	0-41.1			
MCPA	10800	2500	µg/kg wet	12500		86.4	40-140			
MCPA [2C]	12100	2500	µg/kg wet	12500		96.5	40-140			
MCPP	11600	2500	µg/kg wet	12500		92.5	40-140			
MCPP [2C]	11200	2500	µg/kg wet	12500		89.4	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	91.6		µg/kg wet	100		91.6	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	90.2		µg/kg wet	100		90.2	30-150			

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## QUALITY CONTROL

## Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232364 - SW-846 8151										
LCS Dup (B232364-BSD1)										
Prepared: 06/04/19 Analyzed: 06/10/19										
2,4-D	105	25	µg/kg wet	125		84.3	40-140	10.7	30	
2,4-D [2C]	109	25	µg/kg wet	125		87.2	40-140	8.04	30	
2,4-DB	104	25	µg/kg wet	125		83.0	40-140	15.7	30	
2,4-DB [2C]	109	25	µg/kg wet	125		87.1	40-140	9.70	30	
2,4,5-TP (Silvex)	11.0	2.5	µg/kg wet	12.5		87.8	40-140	12.2	30	
2,4,5-TP (Silvex) [2C]	10.8	2.5	µg/kg wet	12.5		86.7	40-140	11.8	30	
2,4,5-T	11.1	2.5	µg/kg wet	12.5		89.2	40-140	9.86	30	
2,4,5-T [2C]	24.8	2.5	µg/kg wet	12.5		198	40-140	7.57	30	
Dalapon	207	62	µg/kg wet	312		66.2	40-140	3.27	30	L-11
Dalapon [2C]	208	62	µg/kg wet	312		66.5	40-140	3.13	30	
Dicamba	10.4	2.5	µg/kg wet	12.5		83.4	40-140	7.77	30	
Dicamba [2C]	10.8	2.5	µg/kg wet	12.5		86.5	40-140	4.95	30	
Dichloroprop	110	25	µg/kg wet	125		88.2	40-140	10.0	30	
Dichloroprop [2C]	114	25	µg/kg wet	125		91.3	40-140	9.11	30	
Dinoseb	17.6	12	µg/kg wet	62.5		28.2	0-42.4	7.57	30	
Dinoseb [2C]	21.7	12	µg/kg wet	62.5		34.8	0-41.1	0.444	30	
MCPA	9570	2500	µg/kg wet	12500		76.5	40-140	12.1	30	
MCPA [2C]	11000	2500	µg/kg wet	12500		87.9	40-140	9.33	30	
MCPP	10300	2500	µg/kg wet	12500		82.4	40-140	11.6	30	
MCPP [2C]	10100	2500	µg/kg wet	12500		80.6	40-140	10.4	30	
Surrogate: 2,4-Dichlorophenylacetic acid	82.8		µg/kg wet	100		82.8	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	84.0		µg/kg wet	100		84.0	30-150			
Matrix Spike (B232364-MS1)										
Source: 19E1819-14 Prepared: 06/04/19 Analyzed: 06/10/19										
2,4-D	120	29	µg/kg dry	146	ND	81.9	30-150			
2,4-D [2C]	124	29	µg/kg dry	146	ND	84.7	30-150			
2,4-DB	130	29	µg/kg dry	146	ND	88.9	30-150			
2,4-DB [2C]	142	29	µg/kg dry	146	ND	97.1	30-150			
2,4,5-TP (Silvex)	10.5	2.9	µg/kg dry	14.6	ND	72.1	30-150			
2,4,5-TP (Silvex) [2C]	12.3	2.9	µg/kg dry	14.6	ND	83.9	30-150			
2,4,5-T	11.7	2.9	µg/kg dry	14.6	ND	80.0	30-150			
2,4,5-T [2C]	33.6	2.9	µg/kg dry	14.6	ND	229	30-150			
Dalapon	271	73	µg/kg dry	366	ND	74.0	30-150			MS-12
Dalapon [2C]	270	73	µg/kg dry	366	ND	73.7	30-150			
Dicamba	11.7	2.9	µg/kg dry	14.6	ND	80.1	30-150			
Dicamba [2C]	12.2	2.9	µg/kg dry	14.6	ND	83.1	30-150			
Dichloroprop	129	29	µg/kg dry	146	ND	88.2	30-150			
Dichloroprop [2C]	127	29	µg/kg dry	146	ND	86.7	30-150			
Dinoseb	25.0	15	µg/kg dry	73.2	ND	34.1	10-150			
Dinoseb [2C]	26.8	15	µg/kg dry	73.2	ND	36.7	10-150			
MCPA	11400	2900	µg/kg dry	14600	ND	77.7	30-150			
MCPA [2C]	12100	2900	µg/kg dry	14600	ND	82.9	30-150			
MCPP	11900	2900	µg/kg dry	14600	ND	81.2	30-150			
MCPP [2C]	11700	2900	µg/kg dry	14600	ND	79.9	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	100		µg/kg dry	117		85.4	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	103		µg/kg dry	117		88.1	30-150			

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## QUALITY CONTROL

## Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232364 - SW-846 8151										
Matrix Spike Dup (B232364-MSD1)										
Source: 19E1819-14			Prepared: 06/04/19 Analyzed: 06/10/19							
2,4-D	120	29	µg/kg dry	146	ND	81.8	30-150	0.0855	30	
2,4-D [2C]	123	29	µg/kg dry	146	ND	83.9	30-150	0.932	30	
2,4-DB	130	29	µg/kg dry	146	ND	88.6	30-150	0.308	30	
2,4-DB [2C]	128	29	µg/kg dry	146	ND	87.7	30-150	10.1	30	
2,4,5-TP (Silvex)	10.6	2.9	µg/kg dry	14.6	ND	72.4	30-150	0.415	30	
2,4,5-TP (Silvex) [2C]	12.1	2.9	µg/kg dry	14.6	ND	82.7	30-150	1.42	30	
2,4,5-T	11.8	2.9	µg/kg dry	14.6	ND	80.4	30-150	0.479	30	
2,4,5-T [2C]	33.0	2.9	µg/kg dry	14.6	ND	226 *	30-150	1.70	30	MS-12
Dalapon	250	73	µg/kg dry	366	ND	68.4	30-150	7.89	30	
Dalapon [2C]	251	73	µg/kg dry	366	ND	68.7	30-150	6.94	30	
Dicamba	12.6	2.9	µg/kg dry	14.6	ND	86.1	30-150	7.22	30	
Dicamba [2C]	12.0	2.9	µg/kg dry	14.6	ND	82.0	30-150	1.29	30	
Dichloroprop	130	29	µg/kg dry	146	ND	88.7	30-150	0.545	30	
Dichloroprop [2C]	125	29	µg/kg dry	146	ND	85.2	30-150	1.81	30	
Dinoseb	23.3	15	µg/kg dry	73.2	ND	31.8	10-150	6.83	30	
Dinoseb [2C]	25.3	15	µg/kg dry	73.2	ND	34.6	10-150	5.98	30	
MCPA	11600	2900	µg/kg dry	14600	ND	79.5	30-150	2.37	30	
MCPA [2C]	11100	2900	µg/kg dry	14600	ND	76.1	30-150	8.54	30	
MCPP	12100	2900	µg/kg dry	14600	ND	82.3	30-150	1.36	30	
MCPP [2C]	11600	2900	µg/kg dry	14600	ND	79.5	30-150	0.429	30	
Surrogate: 2,4-Dichlorophenylacetic acid	97.8		µg/kg dry	117		83.5	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	99.1		µg/kg dry	117		84.7	30-150			

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## QUALITY CONTROL

## Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232317 - SW-846 3540C										
Blank (B232317-BLK1) Prepared: 06/03/19 Analyzed: 06/05/19										
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	0.205		mg/Kg wet	0.200		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.186		mg/Kg wet	0.200		93.2	30-150			
Surrogate: Tetrachloro-m-xylene	0.182		mg/Kg wet	0.200		90.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.161		mg/Kg wet	0.200		80.3	30-150			
LCS (B232317-BS1) Prepared: 06/03/19 Analyzed: 06/05/19										
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		84.5	40-140			
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		84.3	40-140			
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		79.9	40-140			
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.200		76.9	40-140			
Surrogate: Decachlorobiphenyl	0.195		mg/Kg wet	0.200		97.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.180		mg/Kg wet	0.200		90.1	30-150			
Surrogate: Tetrachloro-m-xylene	0.176		mg/Kg wet	0.200		88.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.156		mg/Kg wet	0.200		78.2	30-150			
LCS Dup (B232317-BSD1) Prepared: 06/03/19 Analyzed: 06/05/19										
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		82.8	40-140	2.05	30	
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		83.9	40-140	0.446	30	
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		78.9	40-140	1.22	30	
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.200		76.9	40-140	0.0416	30	
Surrogate: Decachlorobiphenyl	0.195		mg/Kg wet	0.200		97.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	0.182		mg/Kg wet	0.200		91.0	30-150			
Surrogate: Tetrachloro-m-xylene	0.173		mg/Kg wet	0.200		86.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	0.154		mg/Kg wet	0.200		77.2	30-150			

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B232351 - SW-846 3546									
Blank (B232351-BLK1) Prepared: 06/03/19 Analyzed: 06/05/19									
C9-C18 Aliphatics	ND	10	mg/Kg wet						
C19-C36 Aliphatics	ND	10	mg/Kg wet						
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet						
C11-C22 Aromatics	ND	10	mg/Kg wet						
Acenaphthene	ND	0.10	mg/Kg wet						
Acenaphthylene	ND	0.10	mg/Kg wet						
Anthracene	ND	0.10	mg/Kg wet						
Benzo(a)anthracene	ND	0.10	mg/Kg wet						
Benzo(a)pyrene	ND	0.10	mg/Kg wet						
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet						
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet						
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet						
Chrysene	ND	0.10	mg/Kg wet						
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet						
Fluoranthene	ND	0.10	mg/Kg wet						
Fluorene	ND	0.10	mg/Kg wet						
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet						
2-Methylnaphthalene	ND	0.10	mg/Kg wet						
Naphthalene	ND	0.10	mg/Kg wet						
Phenanthrene	ND	0.10	mg/Kg wet						
Pyrene	ND	0.10	mg/Kg wet						
n-Decane	ND	0.10	mg/Kg wet						
n-Docosane	ND	0.10	mg/Kg wet						
n-Dodecane	ND	0.10	mg/Kg wet						
n-Eicosane	ND	0.10	mg/Kg wet						
n-Hexacosane	ND	0.10	mg/Kg wet						
n-Hexadecane	ND	0.10	mg/Kg wet						
n-Hexatriacontane	ND	0.10	mg/Kg wet						
n-Nonadecane	ND	0.10	mg/Kg wet						
n-Nonane	ND	0.10	mg/Kg wet						
n-Octacosane	ND	0.10	mg/Kg wet						
n-Octadecane	ND	0.10	mg/Kg wet						
n-Tetracosane	ND	0.10	mg/Kg wet						
n-Tetradecane	ND	0.10	mg/Kg wet						
n-Triacontane	ND	0.10	mg/Kg wet						
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet						
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet						
Surrogate: Chlorooctadecane (COD)	3.50		mg/Kg wet	5.00		70.0	40-140		
Surrogate: o-Terphenyl (OTP)	3.83		mg/Kg wet	5.00		76.6	40-140		
Surrogate: 2-Bromonaphthalene	4.68		mg/Kg wet	5.00		93.7	40-140		
Surrogate: 2-Fluorobiphenyl	5.12		mg/Kg wet	5.00		102	40-140		
LCS (B232351-BS1) Prepared: 06/03/19 Analyzed: 06/05/19									
C9-C18 Aliphatics	24.8	10	mg/Kg wet	30.0		82.8	40-140		
C19-C36 Aliphatics	32.6	10	mg/Kg wet	40.0		81.4	40-140		
Unadjusted C11-C22 Aromatics	68.4	10	mg/Kg wet	85.0		80.4	40-140		
Acenaphthene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140		
Acenaphthylene	3.21	0.10	mg/Kg wet	5.00		64.2	40-140		
Anthracene	4.07	0.10	mg/Kg wet	5.00		81.4	40-140		
Benzo(a)anthracene	4.33	0.10	mg/Kg wet	5.00		86.7	40-140		
Benzo(a)pyrene	4.28	0.10	mg/Kg wet	5.00		85.7	40-140		
Benzo(b)fluoranthene	4.37	0.10	mg/Kg wet	5.00		87.3	40-140		

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232351 - SW-846 3546										
LCS (B232351-BS1)										
Prepared: 06/03/19 Analyzed: 06/05/19										
Benzo(g,h,i)perylene	3.85	0.10	mg/Kg wet	5.00		77.1	40-140			
Benzo(k)fluoranthene	4.36	0.10	mg/Kg wet	5.00		87.2	40-140			
Chrysene	4.44	0.10	mg/Kg wet	5.00		88.7	40-140			
Dibenz(a,h)anthracene	4.26	0.10	mg/Kg wet	5.00		85.1	40-140			
Fluoranthene	4.27	0.10	mg/Kg wet	5.00		85.4	40-140			
Fluorene	3.62	0.10	mg/Kg wet	5.00		72.4	40-140			
Indeno(1,2,3-cd)pyrene	3.97	0.10	mg/Kg wet	5.00		79.4	40-140			
2-Methylnaphthalene	2.87	0.10	mg/Kg wet	5.00		57.5	40-140			
Naphthalene	2.96	0.10	mg/Kg wet	5.00		59.3	40-140			
Phenanthrene	4.00	0.10	mg/Kg wet	5.00		80.0	40-140			
Pyrene	4.32	0.10	mg/Kg wet	5.00		86.4	40-140			
n-Decane	2.33	0.10	mg/Kg wet	5.00		46.5	40-140			
n-Docosane	4.42	0.10	mg/Kg wet	5.00		88.3	40-140			
n-Dodecane	2.93	0.10	mg/Kg wet	5.00		58.6	40-140			
n-Eicosane	4.17	0.10	mg/Kg wet	5.00		83.4	40-140			
n-Hexacosane	4.39	0.10	mg/Kg wet	5.00		87.8	40-140			
n-Hexadecane	4.12	0.10	mg/Kg wet	5.00		82.3	40-140			
n-Hexatriacontane	4.18	0.10	mg/Kg wet	5.00		83.6	40-140			
n-Nonadecane	4.20	0.10	mg/Kg wet	5.00		84.0	40-140			
Nonane	1.57	0.10	mg/Kg wet	5.00		31.4	30-140			
n-Octacosane	4.25	0.10	mg/Kg wet	5.00		85.1	40-140			
n-Octadecane	4.26	0.10	mg/Kg wet	5.00		85.1	40-140			
n-Tetracosane	4.41	0.10	mg/Kg wet	5.00		88.2	40-140			
n-Tetradecane	3.52	0.10	mg/Kg wet	5.00		70.4	40-140			
n-Triacontane	4.20	0.10	mg/Kg wet	5.00		84.0	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	3.73		mg/Kg wet	5.00		74.6	40-140			
Surrogate: o-Terphenyl (OTP)	4.01		mg/Kg wet	5.00		80.3	40-140			
Surrogate: 2-Bromonaphthalene	4.29		mg/Kg wet	5.00		85.7	40-140			
Surrogate: 2-Fluorobiphenyl	4.74		mg/Kg wet	5.00		94.7	40-140			
LCS Dup (B232351-BS1)										
Prepared: 06/03/19 Analyzed: 06/05/19										
C9-C18 Aliphatics	23.7	10	mg/Kg wet	30.0		79.1	40-140	4.51	25	
C19-C36 Aliphatics	31.2	10	mg/Kg wet	40.0		78.0	40-140	4.29	25	
Unadjusted C11-C22 Aromatics	68.3	10	mg/Kg wet	85.0		80.3	40-140	0.0906	25	
Acenaphthene	3.62	0.10	mg/Kg wet	5.00		72.4	40-140	1.94	25	
Acenaphthylene	3.27	0.10	mg/Kg wet	5.00		65.4	40-140	1.88	25	
Anthracene	4.14	0.10	mg/Kg wet	5.00		82.8	40-140	1.76	25	
Benzo(a)anthracene	4.32	0.10	mg/Kg wet	5.00		86.4	40-140	0.236	25	
Benzo(a)pyrene	4.20	0.10	mg/Kg wet	5.00		83.9	40-140	2.07	25	
Benzo(b)fluoranthene	4.30	0.10	mg/Kg wet	5.00		86.1	40-140	1.40	25	
Benzo(g,h,i)perylene	3.78	0.10	mg/Kg wet	5.00		75.5	40-140	2.06	25	
Benzo(k)fluoranthene	4.29	0.10	mg/Kg wet	5.00		85.7	40-140	1.76	25	
Chrysene	4.43	0.10	mg/Kg wet	5.00		88.6	40-140	0.0835	25	
Dibenz(a,h)anthracene	4.18	0.10	mg/Kg wet	5.00		83.6	40-140	1.83	25	
Fluoranthene	4.33	0.10	mg/Kg wet	5.00		86.6	40-140	1.44	25	
Fluorene	3.73	0.10	mg/Kg wet	5.00		74.6	40-140	3.01	25	
Indeno(1,2,3-cd)pyrene	3.87	0.10	mg/Kg wet	5.00		77.4	40-140	2.48	25	
2-Methylnaphthalene	2.90	0.10	mg/Kg wet	5.00		58.0	40-140	0.956	25	
Naphthalene	2.92	0.10	mg/Kg wet	5.00		58.4	40-140	1.44	25	
Phenanthrene	4.11	0.10	mg/Kg wet	5.00		82.1	40-140	2.61	25	

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232351 - SW-846 3546										
LCS Dup (B232351-BSD1)										
Prepared: 06/03/19 Analyzed: 06/05/19										
Pyrene	4.40	0.10	mg/Kg wet	5.00		87.9	40-140	1.67	25	
n-Decane	2.15	0.10	mg/Kg wet	5.00		43.1	40-140	7.71	25	
n-Docosane	4.23	0.10	mg/Kg wet	5.00		84.5	40-140	4.40	25	
n-Dodecane	2.80	0.10	mg/Kg wet	5.00		56.0	40-140	4.37	25	
n-Eicosane	3.99	0.10	mg/Kg wet	5.00		79.8	40-140	4.49	25	
n-Hexacosane	4.20	0.10	mg/Kg wet	5.00		84.1	40-140	4.36	25	
n-Hexadecane	3.97	0.10	mg/Kg wet	5.00		79.3	40-140	3.69	25	
n-Hexatriacontane	4.04	0.10	mg/Kg wet	5.00		80.8	40-140	3.36	25	
n-Nonadecane	4.01	0.10	mg/Kg wet	5.00		80.3	40-140	4.58	25	
n-Nonane	1.39	0.10	mg/Kg wet	5.00		27.8	30-140	12.2	25	L-07
n-Octacosane	4.09	0.10	mg/Kg wet	5.00		81.8	40-140	3.93	25	
n-Octadecane	4.07	0.10	mg/Kg wet	5.00		81.3	40-140	4.56	25	
n-Tetracosane	4.21	0.10	mg/Kg wet	5.00		84.3	40-140	4.48	25	
n-Tetradecane	3.36	0.10	mg/Kg wet	5.00		67.2	40-140	4.59	25	
n-Triacontane	4.05	0.10	mg/Kg wet	5.00		81.0	40-140	3.64	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	3.78		mg/Kg wet	5.00		75.6	40-140			
Surrogate: o-Terphenyl (OTP)	4.14		mg/Kg wet	5.00		82.7	40-140			
Surrogate: 2-Bromonaphthalene	4.75		mg/Kg wet	5.00		94.9	40-140			
Surrogate: 2-Fluorobiphenyl	5.21		mg/Kg wet	5.00		104	40-140			
Matrix Spike (B232351-MS1)										
Source: 19E1819-01 Prepared: 06/03/19 Analyzed: 06/05/19										
C9-C18 Aliphatics	23.5	10	mg/Kg dry	31.1	2.64	67.1	40-140			
C19-C36 Aliphatics	31.6	10	mg/Kg dry	41.5	2.95	69.1	40-140			
Unadjusted C11-C22 Aromatics	61.2	10	mg/Kg dry	88.2	3.66	65.3	40-140			
Acenaphthene	3.14	0.10	mg/Kg dry	5.19	ND	60.6	40-140			
Acenaphthylene	2.81	0.10	mg/Kg dry	5.19	ND	54.3	40-140			
Anthracene	3.67	0.10	mg/Kg dry	5.19	ND	70.8	40-140			
Benzo(a)anthracene	3.92	0.10	mg/Kg dry	5.19	ND	75.5	40-140			
Benzo(a)pyrene	3.81	0.10	mg/Kg dry	5.19	ND	73.5	40-140			
Benzo(b)fluoranthene	3.89	0.10	mg/Kg dry	5.19	ND	75.1	40-140			
Benzo(g,h,i)perylene	3.45	0.10	mg/Kg dry	5.19	ND	66.5	40-140			
Benzo(k)fluoranthene	3.89	0.10	mg/Kg dry	5.19	ND	75.1	40-140			
Chrysene	4.05	0.10	mg/Kg dry	5.19	ND	78.0	40-140			
Dibenz(a,h)anthracene	3.83	0.10	mg/Kg dry	5.19	ND	73.9	40-140			
Fluoranthene	3.89	0.10	mg/Kg dry	5.19	ND	75.0	40-140			
Fluorene	3.25	0.10	mg/Kg dry	5.19	ND	62.6	40-140			
Indeno(1,2,3-cd)pyrene	3.50	0.10	mg/Kg dry	5.19	ND	67.5	40-140			
2-Methylnaphthalene	2.49	0.10	mg/Kg dry	5.19	ND	48.0	40-140			
Naphthalene	2.53	0.10	mg/Kg dry	5.19	ND	48.8	40-140			
Phenanthrene	3.64	0.10	mg/Kg dry	5.19	ND	70.2	40-140			
Pyrene	3.96	0.10	mg/Kg dry	5.19	ND	76.4	40-140			
n-Nonane	1.45	0.10	mg/Kg dry	5.19	ND	28.0	30-140			L-07
Surrogate: Chlorooctadecane (COD)	3.72		mg/Kg dry	5.19		71.7	40-140			
Surrogate: o-Terphenyl (OTP)	3.68		mg/Kg dry	5.19		71.0	40-140			
Surrogate: 2-Bromonaphthalene	4.43		mg/Kg dry	5.19		85.3	40-140			
Surrogate: 2-Fluorobiphenyl	5.03		mg/Kg dry	5.19		96.9	40-140			

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232351 - SW-846 3546										
Matrix Spike Dup (B232351-MSD1)										
		Source: 19E1819-01			Prepared: 06/03/19 Analyzed: 06/05/19					
C9-C18 Aliphatics	26.9	10	mg/Kg dry	31.1	2.64	77.9	40-140	13.3	50	
C19-C36 Aliphatics	33.7	10	mg/Kg dry	41.5	2.95	74.1	40-140	6.37	50	
Unadjusted C11-C22 Aromatics	72.3	10	mg/Kg dry	88.2	3.66	77.9	40-140	16.7	50	
Acenaphthene	4.21	0.10	mg/Kg dry	5.19	ND	81.1	40-140	29.0	50	
Acenaphthylene	3.87	0.10	mg/Kg dry	5.19	ND	74.6	40-140	31.5	50	
Anthracene	4.21	0.10	mg/Kg dry	5.19	ND	81.2	40-140	13.7	50	
Benzo(a)anthracene	4.30	0.10	mg/Kg dry	5.19	ND	83.0	40-140	9.35	50	
Benzo(a)pyrene	4.21	0.10	mg/Kg dry	5.19	ND	81.2	40-140	10.0	50	
Benzo(b)fluoranthene	4.30	0.10	mg/Kg dry	5.19	ND	82.8	40-140	9.87	50	
Benzo(g,h,i)perylene	3.73	0.10	mg/Kg dry	5.19	ND	72.0	40-140	7.89	50	
Benzo(k)fluoranthene	4.30	0.10	mg/Kg dry	5.19	ND	82.8	40-140	9.79	50	
Chrysene	4.42	0.10	mg/Kg dry	5.19	ND	85.2	40-140	8.77	50	
Dibenz(a,h)anthracene	4.18	0.10	mg/Kg dry	5.19	ND	80.7	40-140	8.69	50	
Fluoranthene	4.34	0.10	mg/Kg dry	5.19	ND	83.7	40-140	11.0	50	
Fluorene	4.07	0.10	mg/Kg dry	5.19	ND	78.6	40-140	22.6	50	
Indeno(1,2,3-cd)pyrene	3.88	0.10	mg/Kg dry	5.19	ND	74.9	40-140	10.3	50	
2-Methylnaphthalene	3.59	0.10	mg/Kg dry	5.19	ND	69.2	40-140	36.3	50	
Naphthalene	3.69	0.10	mg/Kg dry	5.19	ND	71.2	40-140	37.3	50	
Phenanthrene	4.21	0.10	mg/Kg dry	5.19	ND	81.2	40-140	14.5	50	
Pyrene	4.42	0.10	mg/Kg dry	5.19	ND	85.3	40-140	11.1	50	
Nonane	1.93	0.10	mg/Kg dry	5.19	ND	37.3	30-140	28.2	50	
Surrogate: Chlorooctadecane (COD)	4.06		mg/Kg dry	5.19		78.4	40-140			
Surrogate: o-Terphenyl (OTP)	4.18		mg/Kg dry	5.19		80.6	40-140			
Surrogate: 2-Bromonaphthalene	5.29		mg/Kg dry	5.19		102	40-140			
Surrogate: 2-Fluorobiphenyl	5.96		mg/Kg dry	5.19		115	40-140			



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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B232287 - MA VPH</b>										
<b>Blank (B232287-BLK1)</b>										
					Prepared & Analyzed: 06/03/19					
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	38.4		µg/L	40.0		96.1	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	37.1		µg/L	40.0		92.8	70-130			
<b>LCS (B232287-BS1)</b>										
					Prepared & Analyzed: 06/03/19					
Benzene	0.0506	0.0010	mg/Kg wet	0.0500		101	70-130			
Butylcyclohexane	0.0596	0.0010	mg/Kg wet	0.0500		119	70-130			
Decane	0.0492	0.0010	mg/Kg wet	0.0500		98.5	70-130			
Ethylbenzene	0.0494	0.0010	mg/Kg wet	0.0500		98.9	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0479	0.0010	mg/Kg wet	0.0500		95.7	70-130			
2-Methylpentane	0.0612	0.0010	mg/Kg wet	0.0500		122	70-130			
Naphthalene	0.0485	0.0050	mg/Kg wet	0.0500		97.1	70-130			
Nonane	0.0589	0.0010	mg/Kg wet	0.0500		118	30-130			
Pentane	0.0606	0.0010	mg/Kg wet	0.0500		121	70-130			
Toluene	0.0500	0.0010	mg/Kg wet	0.0500		99.9	70-130			
1,2,4-Trimethylbenzene	0.0493	0.0010	mg/Kg wet	0.0500		98.7	70-130			
2,2,4-Trimethylpentane	0.0542	0.0010	mg/Kg wet	0.0500		108	70-130			
m+p Xylene	0.100	0.0020	mg/Kg wet	0.100		100	70-130			
o-Xylene	0.0499	0.0010	mg/Kg wet	0.0500		99.8	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	41.2		µg/L	40.0		103	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	39.1		µg/L	40.0		97.6	70-130			
<b>LCS Dup (B232287-BSD1)</b>										
					Prepared & Analyzed: 06/03/19					
Benzene	0.0491	0.0010	mg/Kg wet	0.0500		98.1	70-130	3.04	25	
Butylcyclohexane	0.0579	0.0010	mg/Kg wet	0.0500		116	70-130	2.83	25	
Decane	0.0469	0.0010	mg/Kg wet	0.0500		93.9	70-130	4.75	25	
Ethylbenzene	0.0485	0.0010	mg/Kg wet	0.0500		97.1	70-130	1.84	25	
Methyl tert-Butyl Ether (MTBE)	0.0475	0.0010	mg/Kg wet	0.0500		94.9	70-130	0.814	25	
2-Methylpentane	0.0586	0.0010	mg/Kg wet	0.0500		117	70-130	4.37	25	
Naphthalene	0.0490	0.0050	mg/Kg wet	0.0500		98.0	70-130	0.966	25	
Nonane	0.0569	0.0010	mg/Kg wet	0.0500		114	30-130	3.54	25	
Pentane	0.0601	0.0010	mg/Kg wet	0.0500		120	70-130	0.831	25	
Toluene	0.0488	0.0010	mg/Kg wet	0.0500		97.6	70-130	2.34	25	
1,2,4-Trimethylbenzene	0.0486	0.0010	mg/Kg wet	0.0500		97.1	70-130	1.58	25	

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch B232287 - MA VPH</b>										
<b>LCS Dup (B232287-BSD1)</b>				Prepared & Analyzed: 06/03/19						
2,2,4-Trimethylpentane	0.0516	0.0010	mg/Kg wet	0.0500		103	70-130	4.81	25	
m+p Xylene	0.0981	0.0020	mg/Kg wet	0.100		98.1	70-130	2.02	25	
o-Xylene	0.0490	0.0010	mg/Kg wet	0.0500		97.9	70-130	1.91	25	
Surrogate: 2,5-Dibromotoluene (FID)	41.5		µg/L	40.0		104	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	40.8		µg/L	40.0		102	70-130			
<b>Batch B232289 - MA VPH</b>										
<b>Blank (B232289-BLK1)</b>				Prepared & Analyzed: 06/03/19						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	41.9		µg/L	40.0		105	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	39.3		µg/L	40.0		98.3	70-130			
<b>LCS (B232289-BS1)</b>				Prepared & Analyzed: 06/03/19						
Benzene	0.0466	0.0010	mg/Kg wet	0.0500		93.2	70-130			
Butylcyclohexane	0.0575	0.0010	mg/Kg wet	0.0500		115	70-130			
Decane	0.0464	0.0010	mg/Kg wet	0.0500		92.9	70-130			
Ethylbenzene	0.0461	0.0010	mg/Kg wet	0.0500		92.2	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0438	0.0010	mg/Kg wet	0.0500		87.6	70-130			
2-Methylpentane	0.0551	0.0010	mg/Kg wet	0.0500		110	70-130			
Naphthalene	0.0447	0.0050	mg/Kg wet	0.0500		89.3	70-130			
Nonane	0.0559	0.0010	mg/Kg wet	0.0500		112	30-130			
Pentane	0.0543	0.0010	mg/Kg wet	0.0500		109	70-130			
Toluene	0.0463	0.0010	mg/Kg wet	0.0500		92.6	70-130			
1,2,4-Trimethylbenzene	0.0460	0.0010	mg/Kg wet	0.0500		91.9	70-130			
2,2,4-Trimethylpentane	0.0499	0.0010	mg/Kg wet	0.0500		99.9	70-130			
m+p Xylene	0.0931	0.0020	mg/Kg wet	0.100		93.1	70-130			
o-Xylene	0.0463	0.0010	mg/Kg wet	0.0500		92.6	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	43.4		µg/L	40.0		108	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	41.1		µg/L	40.0		103	70-130			

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## QUALITY CONTROL

## Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232289 - MA VPH										
LCS Dup (B232289-BSD1)					Prepared & Analyzed: 06/03/19					
Benzene	0.0476	0.0010	mg/Kg wet	0.0500		95.1	70-130	1.99	25	
Butylcyclohexane	0.0570	0.0010	mg/Kg wet	0.0500		114	70-130	0.936	25	
Decane	0.0459	0.0010	mg/Kg wet	0.0500		91.8	70-130	1.16	25	
Ethylbenzene	0.0472	0.0010	mg/Kg wet	0.0500		94.3	70-130	2.31	25	
Methyl tert-Butyl Ether (MTBE)	0.0442	0.0010	mg/Kg wet	0.0500		88.5	70-130	0.979	25	
2-Methylpentane	0.0561	0.0010	mg/Kg wet	0.0500		112	70-130	1.85	25	
Naphthalene	0.0455	0.0050	mg/Kg wet	0.0500		90.9	70-130	1.76	25	
Nonane	0.0563	0.0010	mg/Kg wet	0.0500		113	30-130	0.677	25	
Pentane	0.0536	0.0010	mg/Kg wet	0.0500		107	70-130	1.34	25	
Toluene	0.0474	0.0010	mg/Kg wet	0.0500		94.7	70-130	2.27	25	
1,2,4-Trimethylbenzene	0.0468	0.0010	mg/Kg wet	0.0500		93.7	70-130	1.94	25	
2,2,4-Trimethylpentane	0.0502	0.0010	mg/Kg wet	0.0500		100	70-130	0.543	25	
m+p Xylene	0.0953	0.0020	mg/Kg wet	0.100		95.3	70-130	2.29	25	
o-Xylene	0.0473	0.0010	mg/Kg wet	0.0500		94.6	70-130	2.16	25	
Surrogate: 2,5-Dibromotoluene (FID)	47.7		µg/L	40.0		119	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	47.3		µg/L	40.0		118	70-130			

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## QUALITY CONTROL

## Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232592 - SW-846 3050B										
Blank (B232592-BLK1)										
Prepared: 06/05/19 Analyzed: 06/06/19										
Antimony	ND	1.7	mg/Kg wet							
Arsenic	ND	1.7	mg/Kg wet							
Barium	ND	1.7	mg/Kg wet							
Beryllium	ND	0.17	mg/Kg wet							
Cadmium	ND	0.17	mg/Kg wet							
Chromium	ND	0.33	mg/Kg wet							
Lead	ND	0.50	mg/Kg wet							
Nickel	ND	0.33	mg/Kg wet							
Selenium	ND	3.3	mg/Kg wet							
Silver	ND	0.33	mg/Kg wet							
Thallium	ND	1.7	mg/Kg wet							
Vanadium	ND	0.67	mg/Kg wet							
Zinc	ND	0.67	mg/Kg wet							
LCS (B232592-BS1)										
Prepared: 06/05/19 Analyzed: 06/06/19										
Antimony	58.8	4.9	mg/Kg wet	133		44.2	3-196.8			
Arsenic	68.0	4.9	mg/Kg wet	77.2		88.1	82.4-117.4			
Barium	372	4.9	mg/Kg wet	391		95.2	82-118			
Beryllium	207	0.49	mg/Kg wet	238		87.0	83-116.6			
Cadmium	158	0.49	mg/Kg wet	182		87.1	83.1-117.5			
Chromium	245	0.99	mg/Kg wet	272		90.0	81.5-118.5			
Lead	259	1.5	mg/Kg wet	241		108	81.8-118.2			
Nickel	114	0.99	mg/Kg wet	125		91.6	82.4-117.5			
Selenium	192	9.9	mg/Kg wet	216		89.1	79-121.5			
Silver	66.3	0.99	mg/Kg wet	66.3		100	79.6-120.4			
Thallium	140	4.9	mg/Kg wet	148		94.3	80.7-119.3			
Vanadium	87.4	2.0	mg/Kg wet	97.6		89.5	78-121.5			
Zinc	121	2.0	mg/Kg wet	127		95.2	80.8-118.9			
LCS Dup (B232592-BS1)										
Prepared: 06/05/19 Analyzed: 06/06/19										
Antimony	55.9	4.8	mg/Kg wet	133		42.0	3-196.8	5.12	30	
Arsenic	68.4	4.8	mg/Kg wet	77.2		88.6	82.4-117.4	0.524	30	
Barium	366	4.8	mg/Kg wet	391		93.7	82-118	1.67	20	
Beryllium	206	0.48	mg/Kg wet	238		86.4	83-116.6	0.766	30	
Cadmium	153	0.48	mg/Kg wet	182		84.3	83.1-117.5	3.27	20	
Chromium	243	0.96	mg/Kg wet	272		89.4	81.5-118.5	0.616	30	
Lead	221	1.4	mg/Kg wet	241		91.8	81.8-118.2	15.9	30	
Nickel	113	0.96	mg/Kg wet	125		90.1	82.4-117.5	1.66	30	
Selenium	192	9.6	mg/Kg wet	216		89.0	79-121.5	0.0101	30	
Silver	67.1	0.96	mg/Kg wet	66.3		101	79.6-120.4	1.24	30	
Thallium	139	4.8	mg/Kg wet	148		94.0	80.7-119.3	0.287	30	
Vanadium	86.4	1.9	mg/Kg wet	97.6		88.5	78-121.5	1.13	30	
Zinc	122	1.9	mg/Kg wet	127		96.3	80.8-118.9	1.22	30	

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## QUALITY CONTROL

## Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B232592 - SW-846 3050B										
Duplicate (B232592-DUP1) Source: 19E1819-02 Prepared: 06/05/19 Analyzed: 06/06/19										
Antimony	ND	1.8	mg/Kg dry		ND			NC	35	
Arsenic	ND	1.8	mg/Kg dry		4.17			NC	35	R-04
Barium	17.7	1.8	mg/Kg dry		18.3			2.97	35	
Beryllium	0.191	0.18	mg/Kg dry		0.193			0.896	35	
Cadmium	ND	0.18	mg/Kg dry		0.269			NC	35	R-04
Chromium	6.82	0.35	mg/Kg dry		6.60			3.19	35	
Lead	9.49	0.53	mg/Kg dry		9.20			3.16	35	
Nickel	5.62	0.35	mg/Kg dry		5.60			0.335	35	
Selenium	ND	3.5	mg/Kg dry		ND			NC	35	
Silver	ND	0.35	mg/Kg dry		ND			NC	35	
Thallium	ND	1.8	mg/Kg dry		ND			NC	35	
Vanadium	14.2	0.70	mg/Kg dry		13.9			2.10	35	
Zinc	20.7	0.70	mg/Kg dry		20.7			0.299	35	
MRL Check (B232592-MRL1) Prepared: 06/05/19 Analyzed: 06/06/19										
Lead	0.449	0.50	mg/Kg wet	0.497		90.4	80-120			
Matrix Spike (B232592-MS1) Source: 19E1819-02 Prepared: 06/05/19 Analyzed: 06/06/19										
Antimony	9.37	1.8	mg/Kg dry	17.8	1.41	44.7	* 75-125			MS-07
Arsenic	17.6	1.8	mg/Kg dry	17.8	4.17	75.3	75-125			
Barium	34.8	1.8	mg/Kg dry	17.8	18.3	92.7	75-125			
Beryllium	17.0	0.18	mg/Kg dry	17.8	0.193	94.6	75-125			
Cadmium	17.0	0.18	mg/Kg dry	17.8	0.269	94.1	75-125			
Chromium	23.3	0.36	mg/Kg dry	17.8	6.60	93.8	75-125			
Lead	25.4	0.53	mg/Kg dry	17.8	9.20	91.0	75-125			
Nickel	22.6	0.36	mg/Kg dry	17.8	5.60	95.3	75-125			
Selenium	14.9	3.6	mg/Kg dry	17.8	ND	83.9	75-125			
Silver	18.2	0.36	mg/Kg dry	17.8	ND	102	75-125			
Thallium	20.7	1.8	mg/Kg dry	17.8	ND	116	75-125			
Vanadium	30.6	0.71	mg/Kg dry	17.8	13.9	93.6	75-125			
Zinc	52.4	0.71	mg/Kg dry	35.6	20.7	89.1	75-125			
Batch B232653 - SW-846 7471										
Blank (B232653-BLK1) Prepared: 06/06/19 Analyzed: 06/07/19										
Mercury	ND	0.025	mg/Kg wet							
LCS (B232653-BS1) Prepared: 06/06/19 Analyzed: 06/07/19										
Mercury	22.4	1.9	mg/Kg wet	27.3		82.0	64-136.5			
LCS Dup (B232653-BSD1) Prepared: 06/06/19 Analyzed: 06/07/19										
Mercury	21.2	1.9	mg/Kg wet	27.3		77.6	64-136.5	5.58	20	

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## QUALITY CONTROL

## Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD Limit	Notes
Batch B232653 - SW-846 7471								
Duplicate (B232653-DUP1)		Source: 19E1819-02		Prepared: 06/06/19 Analyzed: 06/07/19				
Mercury	ND	0.026	mg/Kg dry		ND		NC 35	
Matrix Spike (B232653-MS1)		Source: 19E1819-02		Prepared: 06/06/19 Analyzed: 06/07/19				
Mercury	0.367	0.027	mg/Kg dry	0.361	ND	102	75-125	

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## BREAKDOWN REPORT

Lab Sample ID: S036798-PEM1 Analyzed: 06/04/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	0.77
Endrin [1]	2.49

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	0.81
Endrin [2]	2.48

## BREAKDOWN REPORT

Lab Sample ID: S036798-PEM2 Analyzed: 06/04/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	1.07
Endrin [1]	2.35

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	1.07
Endrin [2]	2.39

## BREAKDOWN REPORT

Lab Sample ID: S036798-PEM3 Analyzed: 06/05/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	1.83
Endrin [1]	2.04

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## BREAKDOWN REPORT

Lab Sample ID: S036798-PEM3 Analyzed: 06/05/2019

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	1.84
Endrin [2]	2.10

## BREAKDOWN REPORT

Lab Sample ID: S036798-PEM4 Analyzed: 06/05/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	2.16
Endrin [1]	2.03

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	2.17
Endrin [2]	2.06

## BREAKDOWN REPORT

Lab Sample ID: S036798-PEM5 Analyzed: 06/06/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	2.48
Endrin [1]	2.26

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	2.50
Endrin [2]	2.38

## BREAKDOWN REPORT



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## BREAKDOWN REPORT

Lab Sample ID: S036816-PEM1 Analyzed: 06/06/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	3.59
Endrin [1]	2.39

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	4.29
Endrin [2]	2.92

## BREAKDOWN REPORT

Lab Sample ID: S036816-PEM2 Analyzed: 06/06/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	3.13
Endrin [1]	2.26

Column Number: 2

Analyte	% Breakdown
4,4'-DDT [2]	3.69
Endrin [2]	2.85

## BREAKDOWN REPORT

Lab Sample ID: S036816-PEM3 Analyzed: 06/07/2019

Column Number: 1

Analyte	% Breakdown
4,4'-DDT [1]	2.90
Endrin [1]	2.14

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## BREAKDOWN REPORT

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**Lab Sample ID:** S036816-PEM3 **Analyzed:** 06/07/2019

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**Column Number:** 2

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Analyte	% Breakdown
4,4'-DDT [2]	3.41
Endrin [2]	2.66

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES *SW-846 8081B*

GP1-2(0-2)

Lab Sample ID: 19E1819-13 Date(s) Analyzed: 06/06/2019 06/06/2019  
Instrument ID (1): ECD2 Instrument ID (2): ECD2  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDE	1	7.256	0.000	0.000	0.57	
	2	7.313	0.000	0.000	0.49	15.1
4,4'-DDT	1	7.937	0.000	0.000	0.48	
	2	8.007	0.000	0.000	0.45	6.5

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

GP1-6.(3-5)

Lab Sample ID: 19E1819-14

Date(s) Analyzed: 06/06/2019 06/06/2019

Instrument ID (1): ECD2

Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDE	1	7.255	0.000	0.000	0.027	
	2	7.313	0.000	0.000	0.026	3.8
4,4'-DDT	1	7.936	0.000	0.000	0.020	
	2	8.006	0.000	0.000	0.020	0.0

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES *SW-846 8081B*

GP1-7(3-5)

Lab Sample ID: 19E1819-15 Date(s) Analyzed: 06/06/2019 06/07/2019  
Instrument ID (1): ECD2A Instrument ID (2): ECD2B  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.723	0.000	0.000	0.36	
	2	7.762	0.000	0.000	0.44	20.0
4,4'-DDE	1	7.260	0.000	0.000	5.2	
	2	7.311	0.000	0.000	4.7	10.1
4,4'-DDT	1	7.934	0.000	0.000	12	
	2	8.003	0.000	0.000	12	0.0
Chlordane	1	0.000	0.000	0.000	0.11	
	2	0.000	0.000	0.000	0.092	17.8
Dieldrin	1	7.499	0.000	0.000	0.092	
	2	7.444	0.000	0.000	0.079	15.2
Endrin	1	7.681	0.000	0.000	0.035	
	2	7.682	0.000	0.000	0.025	33.3
Endrin Ketone	1	8.628	0.000	0.000	0.013	
	2	8.628	0.000	0.000	0.049	116.0
Heptachlor Epoxide	1	6.998	0.000	0.000	0.097	
	2	6.937	0.000	0.000	0.0083	168.0

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B232317-BS1

Date(s) Analyzed: 06/05/2019 06/05/2019

Instrument ID (1):

Instrument ID (2):

GC Column (1):

ID: (mm)

GC Column (2):

ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.15	6.5

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS.Dup

Lab Sample ID: B232317-BSD1

Date(s) Analyzed: 06/05/2019 06/05/2019

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	-0.030	0.030	0.17	
	2	0.000	-0.030	0.030	0.17	0.0
Aroclor-1260	1	0.000	-0.030	0.030	0.16	
	2	0.000	-0.030	0.030	0.15	6.5

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B232333-BS1

Date(s) Analyzed: 06/06/2019 06/06/2019

Instrument ID (1): ECD6

Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.382	0.000	0.000	0.089	
	2	7.393	0.000	0.000	0.091	2.2
4,4'-DDE	1	6.935	0.000	0.000	0.090	
	2	6.957	0.000	0.000	0.091	1.1
4,4'-DDT	1	7.597	0.000	0.000	0.088	
	2	7.636	0.000	0.000	0.085	3.5
Aldrin	1	6.269	0.000	0.000	0.089	
	2	6.190	0.000	0.000	0.089	0.0
alpha-BHC	1	5.539	0.000	0.000	0.087	
	2	5.468	0.000	0.000	0.093	6.7
beta-BHC	1	5.799	0.000	0.000	0.083	
	2	5.744	0.000	0.000	0.082	1.2
delta-BHC	1	5.919	0.000	0.000	0.076	
	2	5.933	0.000	0.000	0.083	8.8
Dieldrin	1	7.159	0.000	0.000	0.088	
	2	7.071	0.000	0.000	0.088	0.0
Endosulfan I	1	6.983	0.000	0.000	0.086	
	2	6.869	0.000	0.000	0.087	1.2
Endosulfan II	1	7.504	0.000	0.000	0.078	
	2	7.461	0.000	0.000	0.079	1.3
Endosulfan Sulfate	1	8.146	0.000	0.000	0.088	
	2	7.939	0.000	0.000	0.086	2.3
Endrin	1	7.334	0.000	0.000	0.089	
	2	7.299	0.000	0.000	0.087	2.3
Endrin Ketone	1	8.331	0.000	0.000	0.085	
	2	8.306	0.000	0.000	0.083	2.4
gamma-BHC (Lindane)	1	5.744	0.000	0.000	0.088	
	2	5.689	0.000	0.000	0.090	2.3
Heptachlor	1	6.062	0.000	0.000	0.066	
	2	5.974	0.000	0.000	0.088	28.6
Heptachlor Epoxide	1	6.695	0.000	0.000	0.085	



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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B232333-BS1

Date(s) Analyzed: 06/06/2019 06/06/2019

Instrument ID (1): ECD6

Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
	2	6.588	0.000	0.000	0.085	0.0
Hexachlorobenzene	1	5.430	0.000	0.000	0.10	
	2	5.380	0.000	0.000	0.094	6.2
Methoxychlor	1	7.973	0.000	0.000	0.084	
	2	8.160	0.000	0.000	0.084	0.0

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS.Dup

Lab Sample ID: B232333-BSD1 Date(s) Analyzed: 06/06/2019 06/06/2019

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
4,4'-DDD	1	7.382	0.000	0.000	0.091	
	2	7.393	0.000	0.000	0.094	3.2
4,4'-DDE	1	6.934	0.000	0.000	0.094	
	2	6.956	0.000	0.000	0.094	0.0
4,4'-DDT	1	7.596	0.000	0.000	0.090	
	2	7.635	0.000	0.000	0.088	2.3
Aldrin	1	6.268	0.000	0.000	0.092	
	2	6.189	0.000	0.000	0.093	1.1
alpha-BHC	1	5.539	0.000	0.000	0.089	
	2	5.468	0.000	0.000	0.096	7.6
beta-BHC	1	5.798	0.000	0.000	0.085	
	2	5.744	0.000	0.000	0.084	1.2
delta-BHC	1	5.919	0.000	0.000	0.078	
	2	5.933	0.000	0.000	0.085	8.6
Dieldrin	1	7.159	0.000	0.000	0.091	
	2	7.071	0.000	0.000	0.091	0.0
Endosulfan I	1	6.981	0.000	0.000	0.088	
	2	6.869	0.000	0.000	0.090	2.3
Endosulfan II	1	7.503	0.000	0.000	0.080	
	2	7.461	0.000	0.000	0.081	0.0
Endosulfan Sulfate	1	8.145	0.000	0.000	0.090	
	2	7.939	0.000	0.000	0.088	2.3
Endrin	1	7.333	0.000	0.000	0.091	
	2	7.299	0.000	0.000	0.090	1.1
Endrin Ketone	1	8.329	0.000	0.000	0.087	
	2	8.305	0.000	0.000	0.085	2.3
gamma-BHC (Lindane)	1	5.743	0.000	0.000	0.091	
	2	5.689	0.000	0.000	0.093	2.2
Heptachlor	1	6.061	0.000	0.000	0.068	
	2	5.973	0.000	0.000	0.092	30.0
Heptachlor Epoxide	1	6.694	0.000	0.000	0.088	

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**IDENTIFICATION SUMMARY  
FOR SINGLE COMPONENT ANALYTES**  
*SW-846 8081B*

LCS.Dup

Lab Sample ID: B232333-BSD1 Date(s) Analyzed: 06/06/2019 06/06/2019  
Instrument ID (1): ECD6 Instrument ID (2): ECD6  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
	2	6.587	0.000	0.000	0.087	1.1
Hexachlorobenzene	1	5.430	0.000	0.000	0.11	
	2	5.380	0.000	0.000	0.097	12.6
Methoxychlor	1	7.972	0.000	0.000	0.087	
	2	8.159	0.000	0.000	0.088	1.1

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B232364-BS1 Date(s) Analyzed: 06/10/2019 06/10/2019  
Instrument ID (1): ECD 8 Instrument ID (2): ECD 8  
GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	13.826	0.000	0.000	12.3	
	2	13.967	0.000	0.000	26.7	76.0
2,4,5-TP (Silvex)	1	13.250	0.000	0.000	12.4	
	2	13.141	0.000	0.000	12.2	1.7
2,4-D	1	11.574	0.000	0.000	117	
	2	11.543	0.000	0.000	118	1.7
2,4-DB	1	14.960	0.000	0.000	121	
	2	15.004	0.000	0.000	120	0.0
Dalapon	1	3.734	0.000	0.000	214	
	2	3.402	0.000	0.000	214	1.9
Dicamba	1	9.714	0.000	0.000	11.3	
	2	9.588	0.000	0.000	11.4	3.6
Dichloroprop	1	11.122	0.000	0.000	122	
	2	10.937	0.000	0.000	125	4.1
Dinoseb	1	16.834	0.000	0.000	19.0	
	2	15.589	0.000	0.000	21.6	12.8
MCPA	1	10.444	0.000	0.000	10800	
	2	10.336	0.000	0.000	12100	9.5
MCPP	1	10.159	0.000	0.000	11600	
	2	9.905	0.000	0.000	11200	6.9

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS\_Dup

Lab Sample ID: B232364-BSD1

Date(s) Analyzed: 06/10/2019 06/10/2019

Instrument ID (1): ECD 8

Instrument ID (2): ECD 8

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	13.823	0.000	0.000	11.1	
	2	13.966	0.000	0.000	24.8	77.1
2,4,5-TP (Silvex)	1	13.248	0.000	0.000	11.0	
	2	13.142	0.000	0.000	10.8	1.8
2,4-D	1	11.572	0.000	0.000	105	
	2	11.543	0.000	0.000	109	0.9
2,4-DB	1	14.959	0.000	0.000	104	
	2	15.003	0.000	0.000	109	8.6
Dalapon	1	3.732	0.000	0.000	207	
	2	3.399	0.000	0.000	208	1.0
Dicamba	1	9.713	0.000	0.000	10.4	
	2	9.587	0.000	0.000	10.8	7.7
Dichloroprop	1	11.121	0.000	0.000	110	
	2	10.936	0.000	0.000	114	3.6
Dinoseb	1	16.834	0.000	0.000	17.6	
	2	15.588	0.000	0.000	21.7	18.6
MCPA	1	10.441	0.000	0.000	9570	
	2	10.334	0.000	0.000	11000	13.6
MCPP	1	10.158	0.000	0.000	10300	
	2	9.904	0.000	0.000	10100	1.0

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES SW-846 8151A

Matrix Spike

Lab Sample ID: B232364-MS1

Date(s) Analyzed: 06/10/2019 06/10/2019

Instrument ID (1): ECD 8

Instrument ID (2): ECD 8

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	13.822	0.000	0.000	11.7	
	2	13.965	0.000	0.000	33.6	94.7
2,4,5-TP (Silvex)	1	13.247	0.000	0.000	10.5	
	2	13.139	0.000	0.000	12.3	11.2
2,4-D	1	11.571	0.000	0.000	120	
	2	11.543	0.000	0.000	124	3.3
2,4-DB	1	14.957	0.000	0.000	130	
	2	15.001	0.000	0.000	142	8.8
Dalapon	1	3.730	0.000	0.000	271	
	2	3.396	0.000	0.000	270	0.0
Dicamba	1	9.713	0.000	0.000	11.7	
	2	9.588	0.000	0.000	12.2	1.7
Dichloroprop	1	11.121	0.000	0.000	129	
	2	10.936	0.000	0.000	127	2.3
Dinoseb	1	16.831	0.000	0.000	25.0	
	2	15.588	0.000	0.000	26.8	7.0
MCPA	1	10.443	0.000	0.000	11400	
	2	10.334	0.000	0.000	12100	9.5
MCPP	1	10.158	0.000	0.000	11900	
	2	9.905	0.000	0.000	11700	2.5

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# IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Matrix Spike Dup

Lab Sample ID: B232364-MSD1

Date(s) Analyzed: 06/10/2019 06/10/2019

Instrument ID (1): ECD 8

Instrument ID (2): ECD 8

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
2,4,5-T	1	13.822	0.000	0.000	11.8	
	2	13.965	0.000	0.000	33.0	93.3
2,4,5-TP (Silvex)	1	13.246	0.000	0.000	10.6	
	2	13.141	0.000	0.000	12.1	9.5
2,4-D	1	11.572	0.000	0.000	120	
	2	11.543	0.000	0.000	123	2.5
2,4-DB	1	14.959	0.000	0.000	130	
	2	15.004	0.000	0.000	128	1.6
Dalapon	1	3.730	0.000	0.000	250	
	2	3.396	0.000	0.000	251	0.4
Dicamba	1	9.713	0.000	0.000	12.6	
	2	9.588	0.000	0.000	12.0	8.0
Dichloroprop	1	11.121	0.000	0.000	130	
	2	10.935	0.000	0.000	125	3.9
Dinoseb	1	16.834	0.000	0.000	23.3	
	2	15.587	0.000	0.000	25.3	9.5
MCPA	1	10.442	0.000	0.000	11600	
	2	10.333	0.000	0.000	11100	7.8
MCPP	1	10.158	0.000	0.000	12100	
	2	9.904	0.000	0.000	11600	3.4

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## FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix interference.
L-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
L-11	Laboratory fortified blank/laboratory control sample was outside of control limits on the confirmation column, but within control limits on the primary column. All sample results are reported from the column within control criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-07	Matrix spike recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possibility of sample matrix effects that lead to low bias for reported result or non-homogeneous sample aliquot cannot be eliminated.
MS-12	Matrix spike recovery and matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
O-32	A dilution was performed as part of the standard analytical procedure.
P-02	Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
R-04	Duplicate relative percent difference (RPD) is a less useful indicator of sample precision for sample results that are <5 times the reporting limit (RL).
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-08	Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.



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## CERTIFICATIONS

## Certified Analyses included in this Report

Analyte	Certifications
<b>MADEP-EPH-04-1.1 in Soil</b>	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
<b>MADEP-VPH-Feb 2018 Rev 2.1 in Soil</b>	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
<b>SIW-846 6010D in Soil</b>	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC

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## Certified Analyses included in this Report

## CERTIFICATIONS

Analyte	Certifications
<i>SIW-846 6010D in Soil</i>	
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
<i>SIW-846 7471B in Soil</i>	
Mercury	CT,NH,NY,NC,ME,VA
<i>SIW-846 8081B in Soil</i>	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
<i>SIW-846 8081B in Water</i>	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA

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## Certified Analyses included in this Report

## CERTIFICATIONS

Analyte	Certifications
<i>SW-846 8081B in Water</i>	
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
<i>SW-846 8082A in Soil</i>	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA

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## CERTIFICATIONS

## Certified Analyses included in this Report

Analyte	Certifications
<i>SIW-846 8082A in Soil</i>	
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
<i>SIW-846 8151A in Soil</i>	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
Dinoseb	NY,ME,NC,NH,VA,CT
Dinoseb [2C]	NY,ME,NC,NH,VA,CT
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPPE	NY,ME,NC,NH,VA,CT
MCPPE [2C]	NY,ME,NC,NH,VA,CT
<i>SIW-846 8151A in Water</i>	
2,4-D	ME,NC,NH,CT,NY,VA
2,4-D [2C]	ME,NC,NH,CT,NY,VA
2,4-DB	ME,NC,NH,CT,NY,VA
2,4-DB [2C]	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex)	ME,NC,NH,CT,NY,VA
2,4,5-TP (Silvex) [2C]	ME,NC,NH,CT,NY,VA
2,4,5-T	ME,NC,NH,CT,NY,VA
2,4,5-T [2C]	ME,NC,NH,CT,NY,VA
Dalapon	ME,NC,NH,CT,NY,VA
Dalapon [2C]	ME,NC,NH,CT,NY,VA
Dicamba	ME,NC,NH,CT,NY,VA
Dicamba [2C]	ME,NC,NH,CT,NY,VA
Dichloroprop	ME,NC,NH,CT,NY,VA
Dichloroprop [2C]	ME,NC,NH,CT,NY,VA
Dinoseb	ME,NC,NH,CT,NY,VA

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## Certified Analyses included in this Report

## CERTIFICATIONS

Analyte	Certifications
<i>SIV-846 8151A in Water</i>	
Dinoseb [2C]	ME,NC,NH,CT,NY,VA
MCPA	NC,CT
MCPA [2C]	NC,CT
MCPP	NC,CT
MCPP [2C]	NC,CT
<i>SIV-846 8260C in Soil</i>	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME

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## Certified Analyses included in this Report

## CERTIFICATIONS

Analyte	Certifications
<i>SW-846 8260C in Soil</i>	
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	03/1/2020
MA	Massachusetts DEP	M-MA100	06/30/2019
CT	Connecticut Department of Public Health	PH-0567	09/30/2019
NY	New York State Department of Health	10899 NELAP	04/1/2020
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2020
RI	Rhode Island Department of Health	LAO00112	12/30/2019
NC	North Carolina Div. of Water Quality	652	12/31/2019
NJ	New Jersey DEP	MA007 NELAP	06/30/2019
FL	Florida Department of Health	E871027 NELAP	06/30/2019
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2019
ME	State of Maine	2011028	06/9/2019
VA	Commonwealth of Virginia	460217	12/14/2019
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2019
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2020
NC-DW	North Carolina Department of Health	25703	07/31/2019







I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples \_\_\_\_\_



**con-test®**  
ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client CDW

Received By CE

Date 5-31-19

Time 1845

How were the samples received? In Cooler T No Cooler \_\_\_\_\_ On Ice T No Ice \_\_\_\_\_  
Direct from Sampling \_\_\_\_\_ Ambient \_\_\_\_\_ Melted Ice \_\_\_\_\_

Were samples within Temperature? 2-6°C T By Gun # 1 Actual Temp - 2.8, 3.3  
By Blank # \_\_\_\_\_ Actual Temp - \_\_\_\_\_

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T  
Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F

Are there Rushes? F

Are there Short Holds? F

Is there enough Volume? T

Is there Headspace where applicable? NA

Proper Media/Containers Used? T

Were trip blanks received? F

Do all samples have the proper pH? NA Acid \_\_\_\_\_ Base \_\_\_\_\_

MS/MSD? F

Is splitting samples required? F

On COC? F

Vials	#	Containers	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-	24	250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-	24	Flashpoint		Col./Bacteria		2oz Amb/Clear
DI-		Other Glass		Other Plastic		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

#### Unused Media

Vials	#	Containers	#	#	#	#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear
DI-		Other Plastic		Other Glass		Encore
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:
Sulfuric-		Perchlorate		Ziplock		

Comments:

## MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory

Project #: 19E1819

Project Location: Beaver St., Waltham, MA

RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

19E1819-01 thru 19E1819-15

Matrices: Soil

## CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP VPH CAM IV C ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	MassDEP EPH CAM IV B (X)	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )

## Affirmative response to Questions A through F is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Questions A through E)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

## A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
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**Data User Note:** Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup>
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup>

<sup>1</sup> All Negative responses must be addressed in an attached Environmental Laboratory case narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington

Position: Technical Representative

Printed Name: Lisa A. WorthingtonDate: 06/10/19